

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS
P.O. BOX 2000
SACRAMENTO, CA 95812-2000

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

I. Background

Project Title: Application to Appropriate Water Application: 31095

Applicant: Barry Hoffner
181 San Carlos Avenue
Sausalito, CA 94965

Applicant's Contact Person: Paula Whealen
Wagner & Bonsignore
2151 River Plaza Drive, Suite 100
Sacramento, CA 95833

General Plan Designation: Resources and Rural Development

Zoning: RRDWA B6 240 Z

Introduction

The proposed project area is situated in the Russian River watershed in the northern portion of Sonoma County. The proposed project area is located in Sections 34 and 35, Township 12 North and Range 10 West, MDB&M, and is on the Asti 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle. The proposed project area (i.e., property limit, also referred to herein as the Hoffner property) consists of about 100 acres of land, while the place of use (POU) within the property limit under Application 31095 is 17 acres (Figure 1). Access to the POU is gained from the south via Pine Mountain Road.

Application 31095 was filed with the State Water Resources Control Board (State Water Board), Division of Water Rights (Division) on August 3, 2000, and was accepted on August 29, 2000. Application 31095 currently seeks a right to appropriate a total of 24 acre-feet per annum (afa) of water from Unnamed Streams tributary to Big Sulphur Creek thence the Russian River, for storage behind the existing onstream dam (having a capacity of 24 acre-feet [af]).

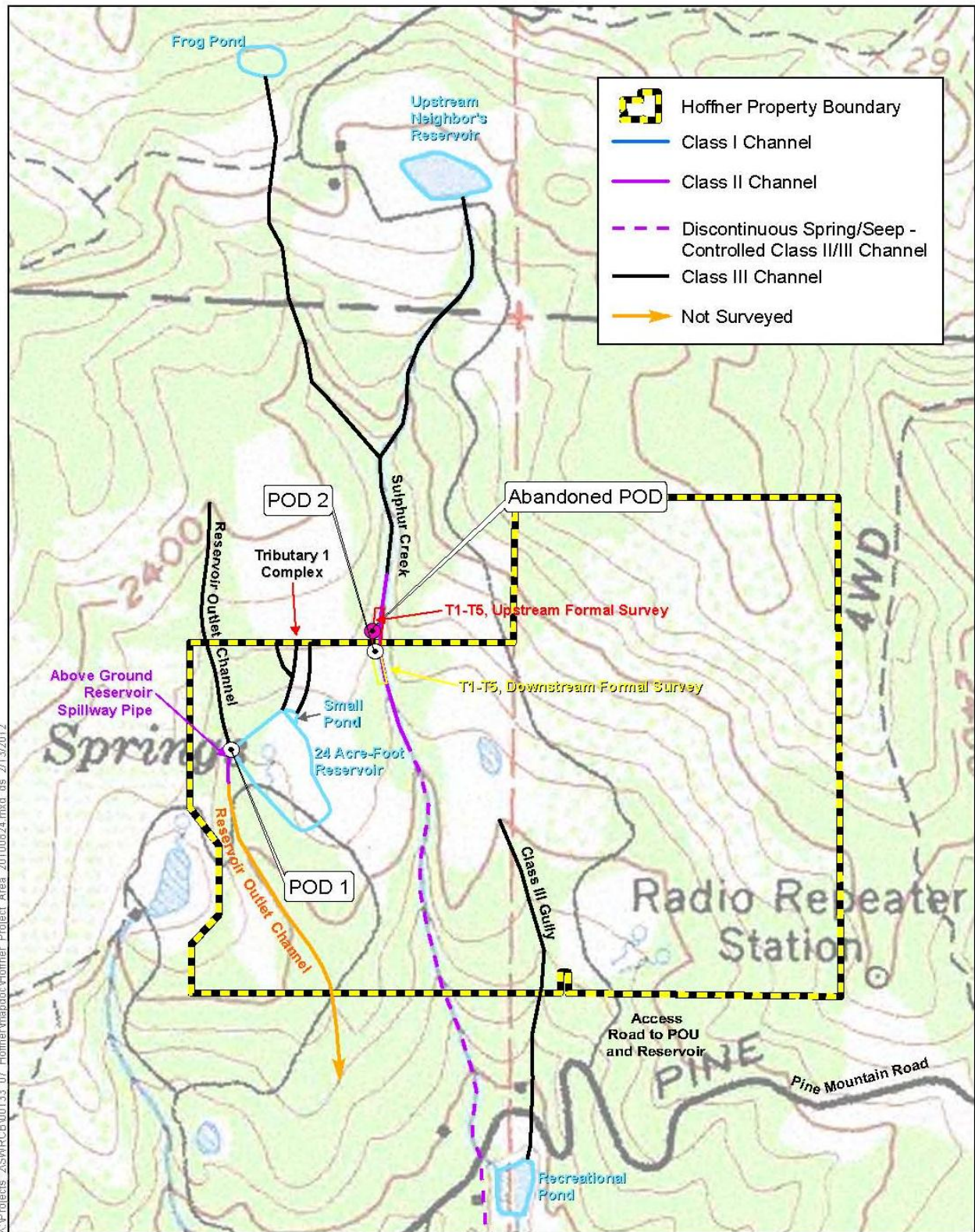


Figure 1
Hoffner Property Area

Project Description

As amended - Application 31095 proposes:

- The seasonal diversion of up to 24 af from one Unnamed Stream associated with Point of Diversion (POD) 1 (N.2,071,192 and E.6,289,527; NAD 83) and a second Unnamed Stream (locally referred to as Sulphur Creek) associated with POD 2¹ (N.2,071,694 and E.6,290,003; NAD 83), both of which are tributary to Big Sulphur Creek, thence the Russian River;
- Storage of up to 24 afa in the existing onstream reservoir impounded by an earthen embankment dam located at POD 1;
- A diversion season of December 15 to March 31; and
- The POU consists of 17 gross acres of vineyard, and the onstream reservoir at POD 1. Proposed water uses include irrigation of the vineyard, recreation, heat control, and fire protection. Vineyard irrigation is accomplished using drip systems and sprinklers. The POU includes essential non-planted areas such as interior and perimeter avenues, which typically amount to 15–25% of the vineyard footprint.
- Acreage distributions within the POU are noted in Table 1 below.

Table 1. Acreage Distributions within the Place of Use

Use Is within	Section	Township	Range	B & M	If Irrigated	
					Acres	Cultivated? (Y/N)
SE ¼ of NE ¼	34	12N	10W	MDB&M	9	Y
SW ¼ of NW ¼	35	12N	10W	MDB&M	8	Y
Total					17	

Project Background

As originally filed, Application 31095 requested the diversion of 49 af of water for storage in one onstream reservoir (POD 1). Water would be used for the purpose of irrigation, frost protection, and heat control of 47 acres as well as recreation and fire protection. The diversion season would be from December 15 to March 31 of each year.

In November 2009, Application 31095 was amended to withdraw request for reservoir enlargement and to decrease the amount of water requested under the application. The application was further amended in February 2010 to reduce the requested 47 acre

¹ POD 2 was not always in its present location. As described in the ICF Jones & Stokes 2010b report, it was located a few hundred feet upstream of its present location. The Applicant is unsure of when the POD was relocated. It was most likely relocated to its present location because of the stable channel environment of which it is now located in.

POU to 17 acres, and again in January 2011 to remove frost protection as a purpose of use.

A public notice was issued for Application 31095 on February 2, 2001. Three protests (see below) were filed against the proposed project at that time from the National Marine Fisheries Service (NMFS), Trout Unlimited (TU), and the California Sportfishing Protection Alliance (CSAP).

1. NMFS sent a letter dated March 12, 2001, protesting the proposed project on the basis of: potential adverse effects on coho salmon and steelhead trout in the Russian River watershed; potential adverse effects associated with potential reduction or interruption of streamflows in downstream reaches; failure to include mitigation measures to provide adequate minimum bypass flow; potential adverse cumulative effects of multiple stream diversions in the Russian River watershed; and potential adverse effects on upstream and downstream movement of listed salmonids (Bybee 2001).
2. TU sent a letter dated March 6, 2001, protesting the proposed project on the basis of: potential adverse effects on coho salmon, steelhead trout, and downstream fish habitat in the Russian River and its tributaries; potential adverse cumulative effects of multiple stream diversions in the Big Sulphur Creek watershed; potential adverse effects from insufficient flows to dilute contaminants resulting from agricultural runoff (Griffin 2001).
3. CSPA filed a protest on February 22, 2001, requesting that the applicant limit the diversion season to January 1 to March 31 and provide fish screens and ladders to ensure the free passage of anadromous fish, including steelhead and salmon (Mensch 2001).

Environmental Setting

The Hoffner property is located in Sonoma County on a moderately sloping topographic area, approximately 4.5 miles from the town of Cloverdale, in the Big Sulphur Creek Hydrologic Sub-Area of the Russian River watershed. The Hoffner property includes rural residential, agricultural vineyards, and native vegetation consisting of chaparral, oak woodlands, and grasslands.

The climate of Sonoma County is generally mild and characterized by moist cool winters and warm dry summers. Annual rainfall in the Cloverdale area of Sonoma County averages approximately 42 inches. Most of the precipitation falls during the winter with very little precipitation during the summer months.

Elevations at the Hoffner property range from approximately 2,120 feet to 2,720 feet above mean sea level. Topography in the POU ranges from generally flat near the reservoir to moderately sloping in the vineyard areas.

California Environmental Quality Act Baseline Conditions

The baseline date for the proposed project is August 29, 2000. The baseline setting consists of the onstream reservoir and dam at POD 1; 17 acres of cleared, graded, and disced land (the POU); and a diversion structure at POD 2. Aerial photography shows that the onstream reservoir at POD 1 was constructed sometime prior to 1993 (Figure 2).

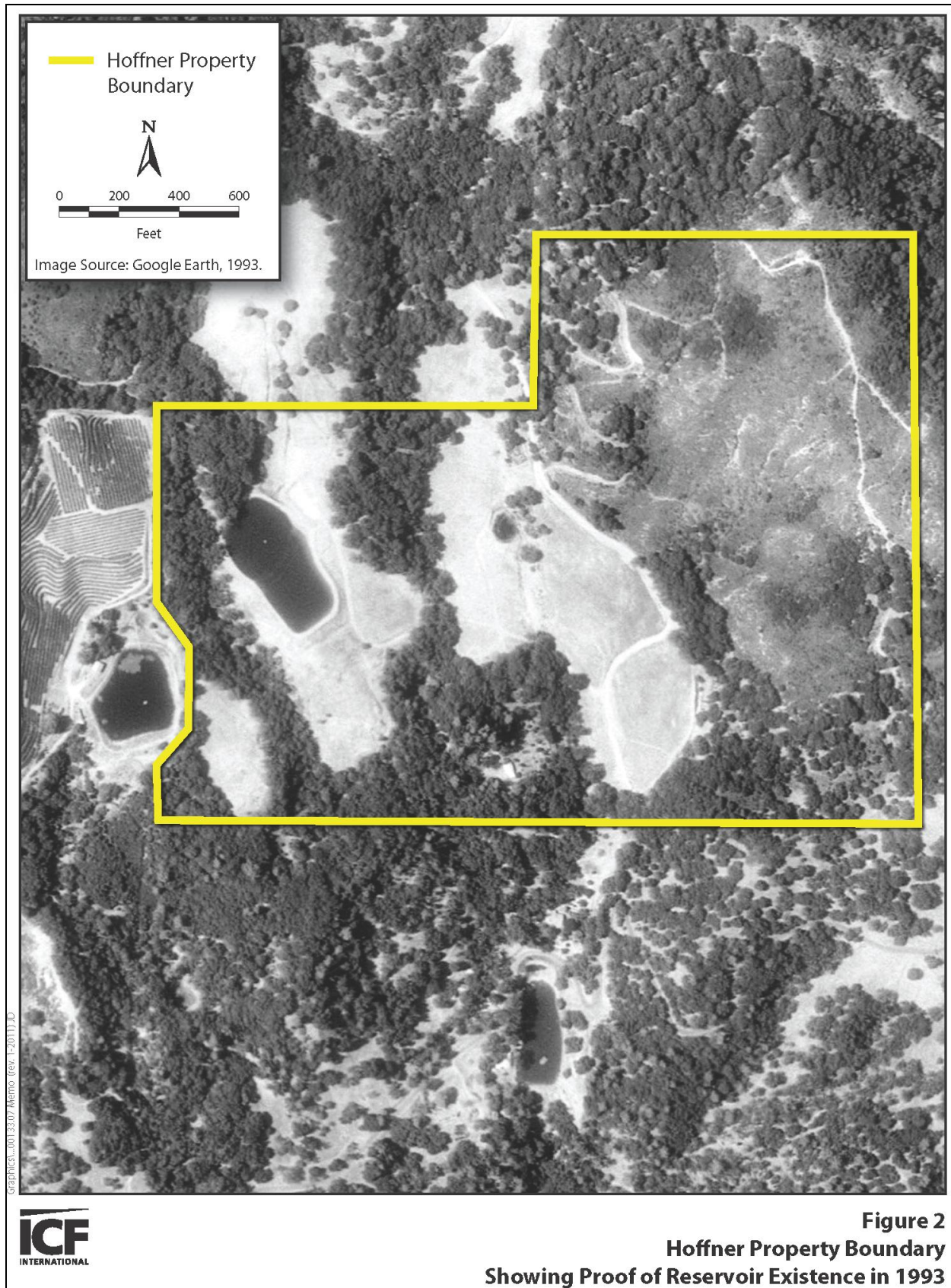
POD 1 collects some spring-fed discharge, some streamflow, sheetflow, and direct precipitation from a small, local watershed. Dimensions of the dam include a vertical height of 20 feet with an approximate embankment length of 200 feet; a storage capacity of 24 af; and an approximate surface area of 2.2 acres. Freeboard dam height above spillway crest is 1.4 feet, and maximum water depth is 18 feet.

POD 2 consists of a pool contained behind a small masonry wall dam on Sulphur Creek. Two embedded pipes penetrate the dam, one of which will be used for bypass flows and the other which leads to the onstream reservoir (currently both pipes lead to the reservoir, but are presently not connected). POD 2 has an average top width of approximately 9.5 feet and an average bottom width of approximately 8 feet. The pipe that collects water and is routed to the reservoir is 3 inches in diameter, with a pipe opening of 4 inches. The pipe that will be used as the bypass flow pipe back to the creek has identical dimensions. Both pipes are located in the center of the channel bed and are perched a few inches above the channel bed. The intake levels for the pipes are adjustable, allowing water to be diverted (and presumably bypassed) under a range of flow conditions².

The date of construction of the masonry wall dam at POD 2 is unknown; however, it was present prior to the Applicant's purchase of the property in 2003 (and appears to be quite older than that).

At the time the application was filed the 17-acre POU had been cleared, graded, and disced but not yet planted; since that time those 17 acres have been planted by the Applicant in the late spring and summer of 2005.

² POD 2 is described in detail in the ICF Jones & Stokes 2010b report, on file with the Division.



As shown in Table 2, the baseline condition for Application 31095 consists of 17 acres of cleared, graded, and disced vineyard, the 24 acre-foot onstream reservoir and dam (POD 1), and the diversion structure on Sulphur Creek (POD 2). The forthcoming California Environmental Quality Act (CEQA) document will analyze the planting of grape vines and the installation of an irrigation system that occurred in the late spring and summer of 2005, the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows, the consumption of 24 afa of water for beneficial uses, and impacts of the project on the hydrology and aquatic species in the Big Sulphur Creek and Russian River watersheds. A Water Availability Analysis/Cumulative Flow Impairment Index (WAA/CFII) Report has been prepared by Wagner & Bonsignore (2009), and the results contained therein are discussed in the relevant sections of this CEQA document.

Table 2. CEQA Baseline Conditions and Project Components and Associated Dates.

CEQA Baseline Date	Existing Project Components at Baseline	Project Components and Associated Dates
August 29, 2000	17 acres of cleared, graded, and disced vineyard	Planting of grape vines on 17 acres (<i>late spring/ summer of 2005</i>)
	24 af onstream reservoir (POD 1)	Installation of irrigation system (<i>late spring/ summer of 2005</i>)
	Diversion structure on Sulphur Creek (POD 2)	Modification of bypass facility at POD 2 (<i>to be completed after issuance of water right permit</i>)
		Consumption of 24 afa of water for beneficial uses (<i>since 2000</i>)

Responsible Agencies and Agencies with Jurisdiction by Law

The State Water Board is the lead agency under CEQA with the primary authority for project approval. In addition, the following responsible, trustee, and federal agencies may have jurisdiction over some of or the entire proposed project:

- California Department of Fish and Game (DFG)—California Endangered Species Act (CESA) compliance;
- U.S. Fish and Wildlife Service (USFWS)—Endangered Species Act compliance; and
- National Marine Fisheries Service (NMFS)—part of the National Oceanic and Atmospheric Administration in the Department of Commerce.

II. Environmental Impacts

The environmental factors checked below could be potentially affected by this project and are discussed in more detail in the checklist on the following pages.

<input checked="" type="checkbox"/> Geological Problems/Soils	<input type="checkbox"/> Noise	<input type="checkbox"/> Public Services
<input type="checkbox"/> Air Quality	<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Utilities and Service Systems
<input type="checkbox"/> Greenhouse Gases/Global Warming	<input type="checkbox"/> Energy and Mineral Resources	<input type="checkbox"/> Aesthetics
<input checked="" type="checkbox"/> Hydrology/Water Quality	<input checked="" type="checkbox"/> Hazards	<input checked="" type="checkbox"/> Cultural Resources
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Recreation
<input type="checkbox"/> Agriculture and Forest Resources	<input type="checkbox"/> Transportation/Circulation	<input checked="" type="checkbox"/> Mandatory Findings of Significance

1. GEOLOGY and SOILS

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Sonoma County is located within the Coast Ranges geomorphic province. The Coast Ranges geomorphic province includes many separate ranges; coalescing mountain masses; and several major structural valleys of sedimentary, igneous, and metamorphic origin. The northern Coast Range extends from the California/Oregon border south to the San Francisco Bay Area. On average, it extends from the coastline to 50–75 miles inland. Typical tectonic, sedimentary, and igneous processes of the Circum-Pacific orogenic belt have influenced the evolution of the northern Coast Range. The Coast

Ranges geomorphic province is characterized by the presence of two entirely different core complexes, one being a Jurassic-Cretaceous eugeosynclinal assemblage (the Franciscan rocks) and the other consisting of early Cretaceous granitic intrusives and older metamorphic rocks. The two unrelated, incompatible core complexes lay side by side, separated from each other by faults. A large sequence of Cretaceous and Cenozoic clastic deposits covers large parts of the province. The rocks in the province are characterized by many folds, thrust faults, reverse faults, and strike-slip faults that have developed as a consequence of Cenozoic deformation (Page 1966).

The proposed project area is mapped by the California Department of Conservation, Division of Mines and Geology (Wagner and Bortugno 1982), now called the California Geological Survey, as being part of the Franciscan Complex. Rocks of the Franciscan Complex are a complex of sandstone, shale, conglomerate, chert, greenstone, and metagraywacke. Parts of the Franciscan Complex are *mélange* – chaotic mixtures of fragmented rock masses in a sheared shaly matrix. Specifically, the proposed project area is mapped as having mostly greenstone geology (altered basalt, including metagreenstone and local chert). These rock formations are expected to be locally stable.

Soils in the proposed project area are mapped by the Soil Conservation Service, now called the Natural Resources Conservation Service (NRCS) as Los Gatos Loam, 30% to 75% slopes. Runoff is rapid to very rapid, and the erosion hazard is high to very high. Soils are not highly expansive (Miller 1972).

Sonoma County faults are part of the San Andreas Fault system that extends along the California coast. The last major earthquake in Sonoma County was a 5.7 magnitude event on the Healdsburg fault in Santa Rosa in 1969. Analysis of seismic data indicates that 7.5 to 8.5 magnitude earthquakes can be expected for the San Andreas and the Healdsburg-Rodgers Creek faults, respectively. Earthquakes of magnitude 8.0 or more on the San Andreas Fault can be expected every 50 to 200 years (Sonoma County 2008).

The proposed project area is not identified as being located in an Alquist-Priolo Earthquake Fault Zone (California Division of Mines and Geology 2001; California Geological Survey 2007a and 2010; Hart and Bryant 1997; International Conference of Building Officials 1997; Jennings and Bryant 2010; Sonoma County 2008; U.S. Geological Survey 2009). However, one active and several early Quaternary and pre-Quaternary faults are located in an approximate 20-mile radius of the proposed project area. The Maacama Fault Zone is the closest early active fault zone to the proposed project area. It is located within an Alquist-Priolo Special Studies Zone, but is approximately 20 miles away from the proposed project area. There are also many early Quaternary and pre-Quaternary faults in the vicinity of the proposed project area. Furthermore, there are faults obscured by massive landslides in the region as well – these are most likely pre-Quaternary faults (California Division of Mines and Geology 2001).

Ground shaking from earthquakes can cause the most damage of any geologic hazard. The amount of ground shaking depends on the magnitude of the earthquake, the distance from the epicenter and the type of earth materials in between. Ground shaking similar to that which took place in Santa Rosa during the 1969 earthquake can be expected somewhere in Sonoma County once every 20 to 30 years (Sonoma County 2008).

Based on a probabilistic seismic hazard map that depicts the peak horizontal ground acceleration values exceeded at a 10% probability in 50 years (Cao et al. 2003; California Geological Survey 2007b), the probabilistic peak horizontal ground acceleration values for the proposed project area range from 0.4 to 0.5g, where one g equals the force of gravity. This indicates that the ground-shaking hazard in the proposed project area is medium. Furthermore, the proposed project area is mapped by Sonoma County as possessing a moderate to very strong ground-shaking severity if a Magnitude 7.1 earthquake were to occur near the proposed project area (Sonoma County 2008).

Liquefaction is a phenomenon in which the strength and stiffness of unconsolidated sediments are reduced by earthquake shaking or other rapid loading. Poorly consolidated, water-saturated fine sands and silts having low plasticity and located within 50 feet of the ground surface are typically considered to be the most susceptible to liquefaction. Soils and sediments that are not water-saturated and that consist of coarser or finer materials are generally less susceptible to liquefaction (California Division of Mines and Geology 1997). Soils in the proposed project area are well above the water table and consist of clay loam and coarser cobbles, thus rendering them not highly susceptible to liquefaction. Additionally, liquefaction susceptibility in the proposed project area is mapped as low (Sonoma County 2008).

The potential for gravitational and seismically-induced landslides in the proposed project area vicinity is mapped as very high (Sonoma County 2008). However, topography in the POU ranges from generally flat near the reservoir to moderately sloping in the vineyard areas.

In general, land uses vary in their sensitivity to geologic hazards. Agriculture and timber management are considered appropriate in areas subject to geologic hazards because such uses require few occupied structures (Sonoma County 2008).

Findings

- a i. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?***

The proposed project area would not be subject to fault rupture because of its distance from active faults. Furthermore, no habitable structures were built or would be built as part of the proposed project, and the proposed project itself would not increase the present hazard of fault rupture. Accordingly, there is no impact.

a ii. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The probabilistic peak horizontal ground acceleration values for the proposed project area range from 0.4 to 0.5g, indicating that the ground-shaking hazard is medium. However, no habitable structures were built or would be built as part of the proposed project, and the proposed project itself would not increase the present hazard of ground shaking. Accordingly, there is no impact.

a iii. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Soils in the proposed project area are well above the water table and consist of clay loam and coarser cobbles, thus rendering them not highly susceptible to liquefaction. Additionally, liquefaction susceptibility in the proposed project area is mapped as low (Sonoma County 2008). Furthermore, no habitable structures were built or would be built as part of the proposed project. Accordingly, there is no impact.

a iv. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

No habitable structures were built or would be built as part of the proposed project. Topography in the POU ranges from generally flat near the reservoir to moderately sloping in the vineyard areas. Accordingly, there is no impact.

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The majority of the project area is composed of the Franciscan Complex, a mélange of sandstone, shale, conglomerate, chert, greenstone, and metagraywacke. These rock formations are expected to be locally stable. Accordingly, there is no impact associated with an unstable geologic unit.

d. Would the project be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The dominant soil map unit in the proposed project area is the Los Gatos Loam, 30% to 75% slopes. Soils are not described as expansive (Miller 1972), due to their low clay content. Accordingly, there is no impact.

- e. ***Would the project have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?***

No septic tanks or wastewater disposal systems were or are proposed as part of the project. Accordingly, there is no impact associated with soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater.

Soil Erosion Impact Discussion and Findings (Impact b)

- b. ***Would the project result in substantial soil erosion or the loss of topsoil?***

Vineyard Planting Impacts

Two impact analyses are discussed herein: 1) the potential for soil erosion during the planting of grape vines and the installation of the irrigation system; and 2) the potential for soil erosion during the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows.

Planting of grape vines and the installation of the irrigation system required temporary soil disturbance. The potential existed for the mobilization of sediment during construction and after construction from unstabilized areas. However, compliance with the Sonoma County Vineyard Erosion and Sediment Control Ordinance (Sonoma County Code, Chapter 30, Article V, Ord. No. 5216 § 2, 2000) permit requirements presumably ensured that no geologic or soil resources on the 17-acre POU were significantly impacted by the proposed project.

The Applicant obtained a Vineyard Erosion and Sediment Control Ordinance (VESCO) permit in late 2004 from the Sonoma County Agricultural Commissioner and the Sonoma County Permit and Resource Management Department (PRMD)³. The POU was planted and the irrigation system was installed in the late spring and summer of 2005.

The Sonoma County PRMD requires grading permits for projects that involve more than 50 cubic yards of fill on any lot or projects that include an excavation or fill that alters or obstructs a drainage course. Additionally, the Sonoma County Agricultural Commission's Agricultural Division administers the Sonoma County Vineyard Erosion and Sediment Control Ordinance (Ordinance).

The purpose of the Ordinance is to safeguard public health, safety, and welfare; minimize erosion and sedimentation in connection with vineyard planting and replanting in the county, protect the lands, streams and riparian habitat in the county; and ensure the long-term economic viability of the County's viticulture resources.

³ The previous owner also had an older County permit, but it expired in 2003; however, in the meantime, Sonoma County had adopted the new VESCO permit which the Applicant obtained in 2004 as described above.

Growers planting new vineyards or replanting existing vineyards are required to utilize recognized conservation practices, best management practices, and provide for riparian setbacks to protect the environment and watersheds of the County.

The vineyard development included Level II plantings. The Ordinance defines these as:

- Level II vineyard planting means any vineyard planting on contiguous new vineyard land under common ownership with a significant drainage area that has similar slope characteristics and has either highly erodible soils and an average slope of ten percent to not more than 15 percent, or less erodible soils and an average slope of 15 percent to not more than 30 percent.

General requirements for authorized vineyard plantings include:

- Any person undertaking a Level II or III vineyard planting shall obtain a certified erosion and sediment control plan for the vineyard planting, notify the agricultural commission of the vineyard planting and request that the agricultural commissioner review the vineyard planting and the certified erosion and sediment control plan for the vineyard planting as required under the Ordinance, and undertake the vineyard planting in accordance with the requirements of the Ordinance and the certified erosion and sediment control plan for the vineyard planting. The vineyard planting shall establish and maintain a riparian setback for any designated stream on the vineyard site of either fifty feet from the top of the bank, or, if applicable, the distance specified in the Riparian Corridors section (26-66-030), whichever is greater.

In brief, the Applicant conducted the following so as to prevent soil erosion or slope failure:

- Prior to the start of construction or diversion or use of water, the Applicant filed a notice of vineyard planting with the Sonoma County agricultural commissioner. The notice conformed to applicable provisions of the Sonoma County Vineyard Erosion and Sediment Control Ordinance (Ord. No. 5216 §§ 2, 2000). The notice included:
 - 1) maps, plans, drawings, calculations, photographs, and other information as was necessary or required by the agricultural commissioner to verify that the vineyard planting qualifies as a Level II authorized vineyard planting; and
 - 2) an erosion and sediment control plan, certified pursuant to Section 30-74 of the Sonoma County Vineyard Erosion and Sediment Control Ordinance, for the vineyard planting.

Compliance with the measures incorporated within an Erosion and Sedimentation Control Plan as required by Sonoma County and compliance with conditions of the Sonoma County Grading Permit and the requirements of the Sonoma County Vineyard and Sediment Control Ordinance presumably reduced potential soil erosion impacts to a less than significant level during construction. The Applicant's prior submittal of evidence of vineyard planting authorization, copies of grading permits, and a certified

erosion and sediment control plan continue to ensure that these past impacts are still considered less than significant.

Proposed Bypass Facility Modification Impacts

The modification of the masonry wall dam at POD 2 that will be required to allow bypass flows is not anticipated to generate any significant impacts to geologic or soil resources. The proposed design for modification of the masonry wall dam at POD 2 to facilitate bypass flows is described in the report titled *Application 31095 of Barry Hoffner - Point of Diversion 2 (Sulphur Creek) Assessment / Draft Bypass Flow Compliance Plan* (ICF Jones & Stokes 2010b). The design involves breaking out a portion of the existing masonry wall to accommodate a 5" diameter pipe penetration located at the flow line of the stream channel, and a 3" diameter pipe penetration for diversions⁴. After the pipes are in place the demolished portion of the wall will be replaced with concrete.

It is anticipated that no disturbance to the Unnamed Stream (locally called Sulphur Creek) or surrounding streambanks will occur. All tools required for modification of the masonry wall dam at POD 2 will be carried in to the stream corridor by hand and no erosion of the streambanks or channel bed will occur. Any leftover masonry material will be carried out and disposed of properly. Accordingly, impacts associated with modification of the masonry wall dam at POD 2 are considered to be less than significant.

⁴ Both pipes are currently 3 inches in diameter, with openings of 4 inches.

2. AIR QUALITY

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Background

The proposed project is located within the North Coast Air Basin, falling under the jurisdiction of the Northern Sonoma County Air Pollution Control District. The climate of the region is Mediterranean in character, with mild, rainy winter weather from November through April, and warm to hot, sub-humid weather from May through October. The North Coast Air Basin is generally not affected by regionally high pollution emissions.

Air quality in the area is a function of the criteria air pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors that influence the intrusion of pollutants into the area from sources outside the immediate vicinity.

Criteria Pollutants

Ozone (O₃)

Ozone (O₃) is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere. Through a complex series of photochemical reactions, in the presence of strong sunlight and O₃ precursors (nitrogen oxides [NO_x] and reactive organic gases [ROG]), O₃ is created. Motor vehicles are a major source of O₃.

precursors. O₃ causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease.

Carbon Monoxide (CO)

CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances and is primarily a winter pollution problem. CO concentrations are influenced by the spatial and temporal distributions of vehicular traffic, wind speed, and atmospheric mixing. High levels of CO can impair the transport of oxygen in the bloodstream, thereby aggravating cardiovascular disease and causing fatigue, headaches, and dizziness.

Respirable Particulate Matter (PM10)

PM10 consists of particulate matter ten microns (one micron is one one-millionth of a meter) or less in diameter, which can be inhaled. Relatively small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorine or ammonia) that may be injurious to health. Primary sources of PM10 emissions in northern Sonoma County are entrained road dust and construction and demolition activities. Burning of wood in residential wood stoves and fireplaces and open agricultural burning are other sources of PM10. The amount of particulate matter and PM10 generated is dependent on the soil type and the soil moisture content.

Regulatory Setting

Regulation of air quality is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants.

Federal

The 1977 Federal Clean Air Act (CAA) required the United States Environmental Protection Agency (EPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for the six “criteria” air pollutants, O₃, CO, NO_x, sulfur dioxide (SO_x), PM10, and lead. The EPA publishes standards for these pollutants, listed in Table 3.

Pursuant to the 1990 CAA Amendments, the EPA has classified air basins (or portions thereof) as either “attainment” or “non-attainment” for each criteria air pollutant, based on whether or not the NAAQS have been achieved. Northern Sonoma County, located in the North Coast Air Basin, is currently designated as either attainment or unclassified for PM₁₀ (attainment), PM_{2.5} (unclassified), O₃ (attainment), CO (unclassified), NO_x (attainment), SO_x (attainment), and lead (attainment) (California Air Resources Board 2010a).

Table 3. State and National Ambient Air Quality Standards

Pollutant	Averaging Time	SAAQS	NAAQS
Ozone	1 hour	0.09 ppm	0.12 ppm
	8 hour	0.070 ppm	0.075 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb
	Annual	0.030 ppm	53 ppb
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb
	3 hour	N/A	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	N/A	0.03 ppm
Respirable Particulate Matter	24 hour	50 µg/m ³	150 µg/m ³
	Annual	20 µg/m ³	N/A
Lead	30 day	1.5 µg/m ³	N/A
	Rolling 3-Month Average	N/A	0.15 µg/m ³
	Calendar Quarter (Quarterly Average)	N/A	1.5 µg/m ³

Notes:

SAAQS (i.e., California standards) for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and respirable particulate matter are values that are not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

NAAQS (i.e., National standards), other than ozone, particulate matter and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard.

ppm = parts per million by volume; ppb = parts per billion by volume; µg/m³ = micrograms per cubic meter of air; N/A: Not Applicable.

Source: California Air Resources Board 2009a; U.S. Environmental Protection Agency 2010.

State

The California Air Resources Board regulates mobile emissions sources and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. The California Air Resources Board regulates local air quality indirectly by State Ambient Air Quality Standards (SAAQS) and vehicle emission standards by conducting research activities, and through planning and coordinating activities.

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These standards are shown in Table 3. Under the California Clean Air Act, patterned after the Federal CAA, areas have been designated as attainment or nonattainment with respect to SAAQS.

Existing Air Quality Conditions

The California Air Resources Board maintains several ambient air quality monitoring stations within the Northern Sonoma County Air Pollution Control District that provide information on the average concentrations of criteria air pollutants in the region. The Cloverdale monitoring station is located in closest proximity to the proposed project area. The second closest monitoring station is located at the Healdsburg Municipal Airport. However, it should be noted that the monitoring stations are located in urban areas while the proposed project area is located in a rural area, more than one thousand feet above Cloverdale. Table 4 summarizes ambient air quality monitoring data from this location and compares ambient air pollutant concentrations of O₃ and PM₁₀ to SAAQS and NAAQS.

Table 4. Ambient Air Quality Monitoring Data

Pollutant	2006	2007	2008	2009
*Ozone (O₃)				
Maximum 1-hour concentration (ppm)	0.070	0.070	0.080	0.070
Number of days Standard exceeded				
SAAQS (1-hour) > 0.09 ppm	0	0	0	0
NAAQS (1-hour) > 0.12 ppm	0	0	0	0
**Particulate Matter (PM₁₀)				
Maximum 24-hour concentration (µg/m ³)	30.0	29.0	81.0	24.0
Number of days Standard exceeded				
SAAQS (24-hour) > 50 µg/m ³	0	0	1	0
NAAQS (24-hour) > 150 µg/m ³	0	0	0	0

Notes:

*Data is from the Healdsburg Municipal Airport monitoring station.

**Data is from the Cloverdale monitoring station.

ppm = parts per million; µg/m³ = micrograms per cubic meter

Source: California Air Resources Board 2008c.

Findings

The Northern Sonoma County Air Pollution Control District Rule Book (specifically Regulation 1) contains guidelines for assessing the air quality impacts of proposed projects, as well as prohibitions. The Northern Sonoma County Air Pollution Control District's approach to assessment of construction-related air quality impacts is to emphasize the implementation of effective and comprehensive control measures rather than provide detailed quantification of emissions (California Air Resources Board 2009b).

a. *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The project did not nor would not conflict with or obstruct implementation of the applicable air quality plan. As such, there is no impact.

b. *Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

The project did not nor would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. As such, there is no impact.

c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Routine continued compliance with permit regulations from the Sonoma County Agricultural Commissioner's Office for the use of soil stabilizers, pesticides, herbicides, and other regulated chemicals continues to render exposure of sensitive receptors to pollutants a less-than-significant impact.

d. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

Air quality impacts associated with the proposed project during the planting of grape vines and the installation of the irrigation system were limited to those resulting from short-term construction activities. Construction-related emissions most likely included exhaust from construction equipment and fugitive dust from trenching during the installation of the irrigation system, movement of vehicles, and wind erosion of exposed soil during vineyard installation.

Furthermore, no significant impacts to air quality occurred as the POU had already been cleared, graded, and disced. The only activity that could have possibly affected air quality was the required trenching for the installation of the irrigation system. However, this only required one trenching machine. Finally, the Applicant minimized dust exposure on a regular basis through watering efforts. As such, impacts to air quality associated with the planting of grape vines and the installation of the irrigation system were less than significant.

No air quality impacts will occur during the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows. All tools required for modification of the masonry wall dam at POD 2 will be carried into the stream corridor by hand and no large machinery will be required for the modification. Accordingly, air quality impacts associated with modification of the masonry wall dam at POD 2 are considered to be negligible.

e. *Would the project create objectionable odors affecting a substantial number of people?*

Routine continued compliance with permit regulations from the Sonoma County Agricultural Commissioner's Office for the use of soil stabilizers, pesticides, herbicides, and other regulated chemicals continues to render exposure of sensitive receptors to pollutants a less than significant impact.

Application of agricultural chemicals during vineyard operation continues to have the potential to result in objectionable odors. Continued compliance with requirements of the Sonoma County Agricultural Commissioner continues to minimize nuisance odors to a less than significant level.

3. GREENHOUSE GASES/GLOBAL WARMING

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emission, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

On September 27, 2006, the State of California adopted Assembly Bill 32 (California Global Warming Solutions Act of 2006). The bill requires the State Air Resources Board to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020. Greenhouse gases include: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The State of California Air Resources Board approved 427 million metric tons of carbon dioxide equivalents (MMTCO₂e) as the statewide greenhouse gas emission limit, which is equivalent to the 1990 emissions level. Carbon dioxide equivalent means the amount of carbon dioxide by weight that would produce the same climate change impact as a given weight of another greenhouse gas. Northern Sonoma County does not exceed the Federal 8-hour ozone standard.

Greenhouse gases, including carbon dioxide, methane, and nitrous oxide, serve to regulate the earth's surface temperature, keeping the earth's average temperature close to 60 degrees Fahrenheit. Greenhouse gases occur both naturally and as a result of human-made activities (anthropogenic sources).

Man-Made Activities (Anthropogenic Sources)

Climate change refers to any significant change in measures of climate (such as temperature, precipitation or wind) lasting for an extended period (decades or longer). Over the past 200 years, anthropogenic sources, including the burning of fossil fuels (such as coal and oil) and deforestation have caused the concentrations of heat-trapping "greenhouse gases" to increase significantly in our atmosphere (U.S. Environmental Protection Agency 2008a).

In the U.S., our energy-related activities account for three-quarters of our human-generated greenhouse gas emissions, mostly in the form of carbon dioxide emissions from burning fossil fuels. More than half the energy-related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important sources of greenhouse gas emissions in the United States. (U.S. Environmental Protection Agency 2008b.)

If greenhouse gases continue to increase, climate models predict that the average temperature at the Earth's surface could increase from 2.5 to 10.4°F above 1990 levels by the end of this century. Scientists are certain that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet's climate. (U.S. Environmental Protection Agency 2008b.)

Rising average temperatures are already affecting the environment. In California during the last fifty years winter and spring temperatures have been warmer, spring snow levels in lower and mid-elevation mountains have dropped, and snowpack has been melting one to four weeks earlier. Climate change projections through 2100 indicate an increase in the number of severe heat days, an increase in poor air quality days, and a declining Sierra snowpack. Such changes could adversely affect health, water supplies, hydropower, agriculture, and recreation in California. (California Climate Change Center 2009.)

Regulatory Setting

The State of California has enacted legislative measures to implement policies and regulatory actions to quantify and reduce greenhouse gases (GHGs). The most prominent of these is AB 32, Nunez (2006) - The California Global Warming Solutions Act of 2006. AB 32 declares that global warming is a serious threat to the public health, economic well-being, natural resources, and environment of California. AB 32 makes the California Air Resources Board (CARB) responsible for monitoring and reducing GHG emissions, and requires CARB to:

1. Establish (by January 1, 2008) a statewide GHG emissions cap for 2020, based on 1990 emissions.
2. Adopt a plan by January 1, 2009 showing how emissions reductions will be achieved from significant GHG sources via regulations, market mechanisms, and other actions.
3. Adopt a list of discrete early action measures by July 1, 2007 that can be implemented before January 1, 2010 and beyond. The Early Action List required by the California Global Warming Solutions Act of 2006 contains nine discrete early action items. These actions are primarily transportation related, with commercial actions included as well. They are intended to target the most significant sources of GHGs.

On April 13, 2009, the Governor's Office of Planning and Research submitted to the Secretary for Natural Resources its proposed greenhouse gas emission amendments to the State CEQA Guidelines, as required by SB 97 (Chapter 185, 2007). Those amendments were adopted on December 30, 2009. The amendments set target greenhouse gas emission reductions for all metropolitan planning organizations (MPO). Each MPO must design a Sustainable Communities Strategy or alternative strategy as part of its regional transportation plan to achieve 2020 and 2035 greenhouse gas emission targets set by the Air Resources Board for each region. Local agencies not included within an MPO are exempt from the greenhouse gas emission targets, but they must address the CEQA Guidelines requirement contained in the Initial Study checklist for projects that they are considering.

As described above, the local agency with jurisdiction over air quality and GHG regulations is the Northern Sonoma County Air Pollution Control District. The Northern Sonoma County Air Pollution Control District currently does not have adopted GHG thresholds of significance for CEQA review projects. The nearest and most applicable local agency, the Bay Area Air Quality Management District, has recently adopted⁵ the approach to the determination of significance of GHG emissions based on the GHG significance threshold of 1,100 metric tons CO₂ per year for projects that are not stationary sources, such as the proposed project. However, as stated on the Bay Area Air Quality Management District's website, it is the Bay Area Air Quality Management District's policy that the adopted thresholds apply to projects for which environmental analysis begins on or after the applicable effective date. As discussed above in the Project Background and California Environmental Quality Act (CEQA) Baseline Conditions section, August 29, 2000 is considered the CEQA baseline date and the date that environmental review for the proposed project began. Accordingly, the proposed project is not subject to the thresholds identified in the recently adopted 2010 Bay Area Air Quality Management District CEQA guidelines.

Findings

- a. *Would the project generate greenhouse gas emission, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?***

The planting of grape vines and the installation of an irrigation system included operational sources of GHG emissions including vehicle travel and energy use, and water transport. However, based on the project activities (primarily vehicular traffic and trenching for the irrigation system), operational sources of GHG emission were minimal and typical of normal vineyard operations⁶. Increases in energy use and water transport were minimal as there is little electricity used onsite and water sources are close in proximity.

⁵ The Bay Area Air Quality Management District CEQA guidelines were adopted on June 2, 2010 and were effective as of the adoption date.

⁶ The Bay Area Air Quality Management District's GHG significance threshold of 1,100 metric tons CO₂ per year for projects that are not stationary sources was surely not exceeded.

The modification of the masonry wall dam at POD 2 that will be required to allow bypass flows will result in a passive bypass system that is gravity-dependent. The passive design of the system assures neither energy consumption nor gas emissions are required to divert this water into the reservoir. Upon completion, the proposed project will create a zero increase in the carbon footprint. There will be no direct or indirect generation of greenhouse gas emissions following completion of construction.

b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project did not or would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Accordingly, there is no impact.

4. HYDROLOGY & WATER QUALITY

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or volume of surface runoff in a manner that would:				
i) result in flooding on- or off-site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) create or contribute runoff water that would exceed the capacity of existing or planned stormwater discharge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) provide substantial additional sources of polluted runoff	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Place housing or other structures which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Expose people or structures to a significant risk of loss, injury, or death involving flooding:				
i) as a result of the failure of a dam or levee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) from inundation by seiche, tsunamis, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in:				
i) a significant cumulative reduction in the water supply downstream of the diversion?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issues (and Supporting Information Sources):	Less Than			
	Potentially Significant Impact	Significant With Mitigation Incorporated	Significant Impact	No Impact
ii) a significant reduction in water supply, either on an annual or seasonal basis, to senior water right holders downstream of the diversion?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) a significant reduction in the available aquatic habitat or riparian habitat for native species of plants and animals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) a substantial increase or threat from invasive, non-native plants and wildlife	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts a–f Findings

Two water quality impact analyses are discussed herein: 1) the potential for soil erosion and an associated resultant decrease in water quality during the planting of grape vines and the installation of the irrigation system; and 2) the potential for soil erosion and an associated resultant decrease in water quality during the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows.

a. *Would the project violate any water quality standards or waste discharge requirements?*

During the course of the planting of grape vines and the installation of the irrigation system, construction activities had the potential to introduce sediment into watercourses. Water quality standards and/or waste discharge requirements were not exceeded because the proposed project complied with the Sonoma County Vineyard Erosion and Sediment Control Ordinance (Sonoma County Code, Chapter 30, Article V, Ord. No. 5216 § 2, 2000) permit requirement.

As described in the Geology and Soils section above, it is anticipated that no disturbance to the unnamed stream at POD 2 (locally called Sulphur Creek) or surrounding streambanks will occur. All tools required for modification of the masonry wall dam at POD 2 will be carried into the stream corridor by hand and no erosion of the streambanks or channel bed will occur. Any leftover masonry material will be carried out and disposed of properly.

Nonetheless, the following permit terms, substantially as follows, shall be included in any water right permit issued pursuant to Application 31095 to protect water quality during the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows:

- No debris, soil, silt, cement that has not set, oil, or other such foreign substance will be allowed to enter into or be placed where it may be washed by rainfall

runoff into the waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area.

- Construction activities within 100 feet of any drainage shall only occur between May 15 and October 31 to minimize the potential for rainfall events to mobilize and transport sediment to aquatic resources.
- In order to prevent degradation of the quality of water during and after construction of the project, prior to commencement of construction, Permittee shall file a report pursuant to Water Code Section 13260 and shall comply with all waste discharge requirements imposed by the California Regional Water Quality Control Board, San Francisco Bay Region, or by the State Water Resources Control Board.

Compliance with the permit terms above would reduce potential water quality impacts associated with the modification of the masonry wall dam at POD 2 to a less than significant level.

- b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?***

The proposed project will not substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The vineyard is already 100% irrigated with reservoir water. The proposed diversion would not alter the course of the unnamed stream at POD 2 from which the diversion would occur.

- c. Would the project substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or volume of surface runoff in a manner that would: i) result in flooding on- or off-site; ii) create or contribute runoff water that would exceed the capacity of existing or planned stormwater discharge; iii) provide substantial additional sources of polluted runoff; or iv) result in substantial erosion or siltation on- or off-site?***

Existing drainage patterns were maintained. During the planting of the grape vines and the installation of the irrigation system, no topography modifications were necessary – as such, drainage patterns did not change. Water quality objectives were met with appropriate erosion controls. The proposed project did not alter the overall drainage pattern of the area. No substantial additional sources of polluted runoff were generated. As such, there is no impact associated with the prior planting of the grape vines and the installation of the irrigation system.

The modification of the masonry wall dam at POD 2 will not affect the existing drainage nor alter the course of the unnamed stream (locally known as Sulphur Creek). The proposed design for modification of the masonry wall dam at POD 2 to facilitate bypass flows is described in the report titled *Application 31095 of Barry Hoffner - Point of*

Diversion 2 (Sulphur Creek) Assessment / Draft Bypass Flow Compliance Plan (ICF Jones & Stokes 2010b). The design involves breaking out a portion of the existing masonry wall to accommodate a 5" diameter pipe penetration located at the flow line of the stream channel, and a 3" diameter pipe penetration for diversions⁷. After the pipes are in place the demolished portion of the wall will be replaced with concrete. As such, there is no impact with regard to alteration of drainage patterns or courses.

- e. ***Would the project place housing or other structures which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?***

The proposed project will not place housing or other structures which would impede or re-direct flood flows within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. As such, there is no impact.

- f. ***Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding: i) as a result of the failure of a dam or levee?; or ii) from inundation by seiche, tsunami, or mudflow?***

The proposed project will not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a dam or levee or from inundation by seiche, tsunami, or mudflow. As such, there is no impact.

California Department of Fish and Game and National Marine Fisheries Service Draft Guidelines

In 2002, DFG and NMFS developed Draft Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams (DFG-NMFS Draft Guidelines) (California Department of Fish and Game and the National Marine Fisheries Service 2002). The DFG-NMFS Draft Guidelines were recommended for use by permitting agencies (including the Division), planning agencies, and water resources development interests when evaluating proposals to divert and use water from northern California coastal streams. The DFG-NMFS Draft Guidelines apply to projects located in the geographic area of Sonoma, Napa, Mendocino, and Marin counties, and portions of Humboldt County. The proposed project is within the geographic limits of the DFG-NMFS Draft Guidelines.

The DFG-NMFS Draft Guidelines recommend that terms and conditions be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biologic and hydrologic assessments. The DFG-NMFS Draft Guidelines recommend limiting new water right permits to diversions during the winter period (December 15 through March 31) when stream flows are generally high. The project's proposed diversion season is within the season recommended by the DFG-NMFS Draft Guidelines.

⁷ Both pipes are currently 3 inches in diameter, with openings of 4 inches.

The DFG-NMFS Draft Guidelines provide a process for assessing the potential for cumulative impacts of multiple diversion projects on downstream fisheries habitat. This process includes calculating the Cumulative Flow Impairment Index (CFII). The CFII calculation, which is essentially a seasonal volumetric comparison of the face value of water rights of record versus estimated unimpaired flow, is used to determine whether more detail studies are required to assess the cumulative effects of existing and pending projects in a watershed of interest. The DFG-NMFS Draft Guidelines also recommend a bypass flow that adequately protects salmonids and aquatic resources downstream from the POD. Specifically, a bypass not less than the February Median Flow (FMF) at the POD is recommended absent a site-specific study to determine a protective bypass flow.

Before the Division can issue a water right permit, it must find that there is unappropriated water available to supply the applicant. In determining the amount of water available for diversion, the Division must take into account, whenever it is in the public interest, the amount of water required to maintain instream beneficial uses such as fish and wildlife resources. An assessment of the project's potential impacts to instream biological resources is provided in the Biological Resources section of this document.

Impact g Findings

g i and ii. Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in: i) a significant cumulative reduction in the water supply downstream of the diversion?; or ii) a significant reduction in water supply, either on an annual or seasonal basis, to senior water right holders downstream of the diversion?

Reduction of flows within Sulphur Creek and the streams to which it is tributary may result from the operation of the proposed diversions. To avoid any significant impacts, there should be no significant alteration of the natural hydrograph of the stream.

Wagner & Bonsignore authored a *Revised Cumulative Flow Impairment Index Calculation and Water Availability Analysis for Application 31095 of Barry Hoffner* for the proposed project in November 2009 (Wagner & Bonsignore 2009). This document was accepted by the Division on December 1, 2009 and is on file with the Division. To assess the cumulative flow impairments of existing and pending projects in the watershed, the analysis calculated a CFII for eight Points of Interest (POIs). The CFII at each POI was computed by dividing the total face value of water rights of record during the period of October 1 through March 31 by the estimated average unimpaired flow during the period of December 15-March 31. POIs were selected by DFG (California Department of Fish and Game 2007).

Table 5, below, summarizes information for each POI and the PODs.

Table 5. Description and Source for Points of Interest

POI	Description	Source	CFII Value (%)
*1	The point on the unnamed stream immediately below point of diversion (POD) #1 as shown on the map.	DFG	168.8
*2	The point on Sulphur Creek immediately below POD #2 as shown on the map.	DFG	11.2
3	The point on Sulphur Creek immediately below the confluence with the unnamed stream as shown on the map.	DFG	3.5
4	The point on Sulphur Creek immediately above the confluence with Big Sulphur Creek as shown on the map.	DFG	1.8
5	The point on Big Sulphur Creek immediately below the confluence with Sulphur Creek as shown on the map.	DFG	8.6
6	The point on Big Sulphur Creek immediately above the confluence with Carpenter Creel Creek as shown on the map.	DFG	8.3
7	The point on Big Sulphur Creek immediately below the confluence with the unnamed stream entering from the northeast as shown on the map.	DFG	8.2
8	The point on Big Sulphur Creek immediately above the confluence with the Russian River.	DFG	8.1
*Note: The CFII for POI #1 and POI #2 combined is 10.5%.			

POIs 1 and 2

The CFII at POIs 1 and 2 is above 10%⁸. Per the DFG-NMFS Draft Guidelines, if the CFII is greater than 10% “then there is reasonable likelihood of significant cumulative impacts. When the CFII is greater than 10%, site-specific studies will be required to assess impacts and the Applicant is referred to NMFS and DFG for the scoping of site-specific fisheries studies to address these impacts.” Accordingly, additional analysis was applied to POIs 1 and 2 to demonstrate water availability (potential yield) in excess of an FMF bypass, and to provide more detailed information about how streamflows may be affected (Wagner & Bonsignore 2009). This additional analysis involved the estimation of unimpaired flow and diversions under Application 31095 on a daily time step. The results of Wagner & Bonsignore’s additional hydrological analysis are discussed below.

⁸ Combined, the CFII is 10.5%. A combined CFII is included herein to put the project as whole in context. For both POIs, the table above assumes the full 24 acre-feet will be diverted at each point. Thus the individual CFIIs provide an indication of seasonal impairment if the full amount of the water is taken from each source. This is conservative because in reality some water will be collected at POD 1 and some will be diverted from POD 2 to fill the reservoir. Combining the two sources and diverting 24 acre-feet for the collective pair provides a more realistic perspective of the project’s potential effects on seasonal flows as whole.

Additionally, the Consultant performed a stream classification survey to fulfill the requirements of site-specific fisheries studies (ICF Jones & Stokes 2010a). The results from this study also provide detailed information for use in evaluating whether the project meets the onstream dam exemption criteria in the DFG-NMFS Draft Guidelines and are described in more detail in the Biological Resources section of this document but are also summarized below.

Potential Yield at PODs 1 and 2

Wagner & Bonsignore (2009) conducted a daily operational analysis to estimate potential yield, i.e. water available to the project at PODs 1 and 2. The results from the daily operational analysis are shown in Table 10 of the Wagner & Bonsignore (2009) report. Unimpaired daily flow at each POD was estimated based on proration of daily records for the Big Sulphur Creek gage. Diversions to storage at POD 1 and POD 2 were made during the season of December 15 through March 31. The FMF was assumed to be bypassed at POD 2⁹. Diversions from POD 2 to off-stream storage at POD 1 were limited to the applied-for rate of 1.0 cfs. Diversions were accumulated each season up to the application amount of 24 acre-feet, if and when available. The full application amount of 24 acre-feet was available in 13 of the 15 years modeled. The average seasonal diversion for the 15-year modeling period was 22 acre-feet.

Potential Impact on Streamflows at POIs 1 and 2

Five water years were selected to illustrate potential impacts on daily flows at POIs 1 and 2 (PODs 1 and 2, respectively). The DFG-NMFS Draft Guidelines direct that “three representative normal and two representative dry years” be studied for a “desktop” type analysis of daily flows. Table 11 of Wagner & Bonsignore (2009) summarizes characteristics describing the water year type of the 15 years modeled based on water year precipitation and regional gaged flows, and shows which years were selected as representative.

Hydrographs showing estimated daily unimpaired flow and impaired flow at POIs 1 and 2 for the five years selected are provided in Figures 1 through 10 of Wagner & Bonsignore (2009). The hydrographs suggest the project has very minimal effect on streamflows and that low flows at POD 2 will be protected by a bypass flow of 0.5 cfs. Diversions at POD 2 will only occur when natural flows are above the minimum bypass flow of 0.5 cfs, and as such will not significantly affect the hydrology or the local or regional aquatic resources.

⁹ POD 1 is essentially the face of the dam at the reservoir and is not considered a diversion point. The naming convention is a holdover from the original Application. No FMF was assumed in the potential yield calculations due to its extremely small calculated value of 0.03 cfs (Wagner & Bonsignore 2009). See the explanation below for further justification of bypassing at POD 2.

Site-Specific Fisheries Study

The CFII values for POIs 1 and 2 have the potential to affect the hydrology of Sulphur Creek downstream; however, POD 1 is located on a Class III channel (called the Tributary 1 complex) and has no natural outlet (Figures 1 and 3). Spill flows from the reservoir pass through a spillway pipe that conveys water into the Reservoir Outlet Channel (Figures 1 and 3), which is a Class II ephemeral channel located immediately west of the reservoir¹⁰. The Reservoir Outlet Channel is a separate channel that has no connection to the reservoir, except for the presence of the spillway pipe. Sulphur Creek is a Class II intermittent channel at POD 2 and for a distance of approximately 570 feet downstream of POD 2, at which point it transitions to a discontinuous spring/seep-controlled Class II/III intermittent/ephemeral channel¹¹ (Figures 1 and 3).

Both PODs are located in non-fish bearing segments. The upstream limit of anadromy (ULA) is located approximately 6,500 feet downstream of POD 2. Fish are not present in the local watershed until the point shown on Figure 3, which is considered the ULA posed by a vertical drop. The closest place to the Hoffner property that provides suitable habitat for fish life stages, however, is below the steep area (labeled as “12% Gradient Reach” on Figure 3) where Sulphur Creek joins the second major tributary from its confluence with Big Sulphur Creek.

Since these two areas are downstream of POI 3, the CFII values at these locations are well below 5% (specifically between 3.5% [the CFII at POI 3] and 1.8% [the CFII at POI 4]). For the reasons described below, impacts to streamflows and fish at these locations can be considered insignificant. Furthermore, impacts on the stream hydrographs at POIs 1 and 2 can be considered insignificant with no further analysis needed for the reasons described above.

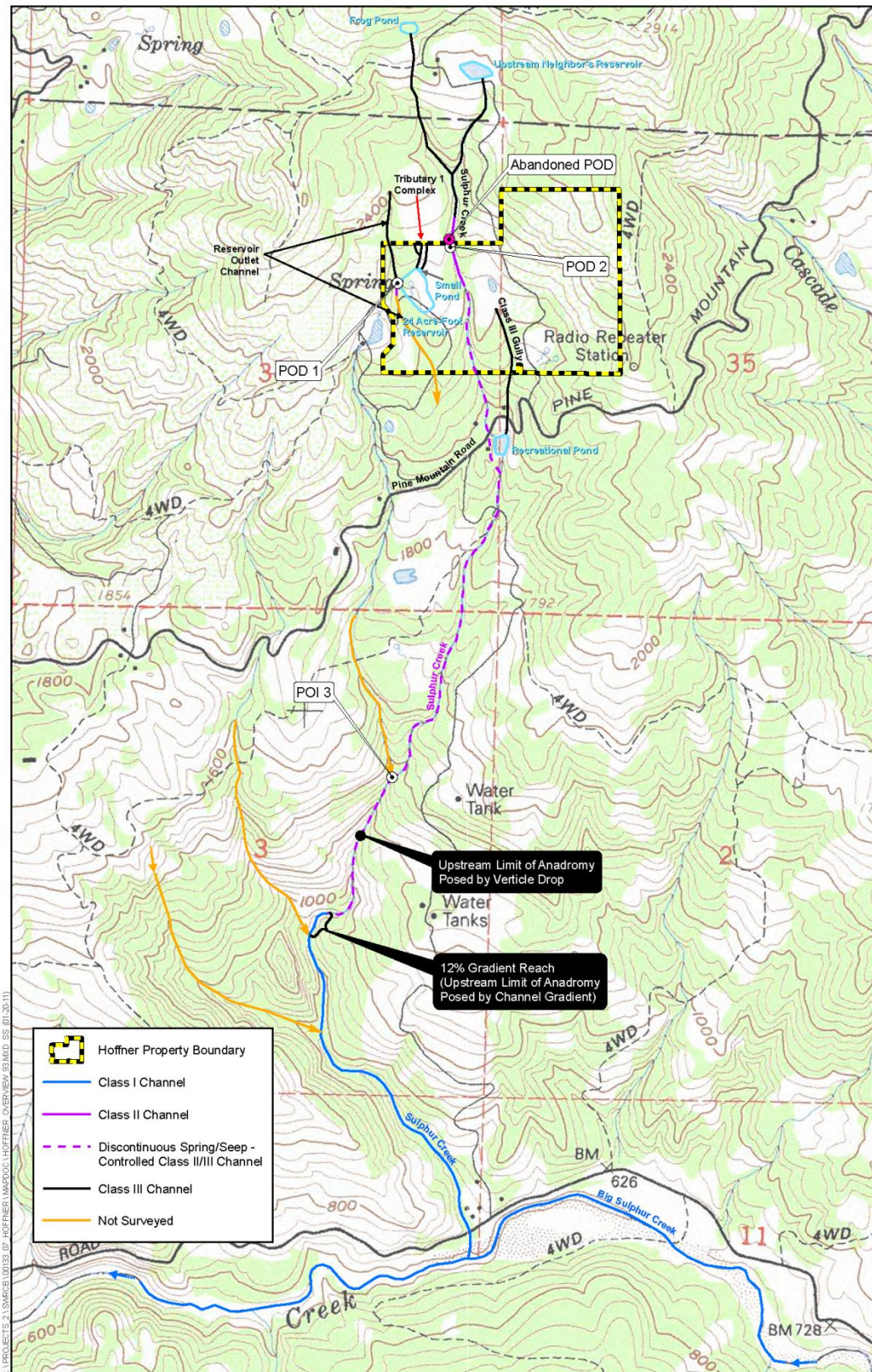
POIs 3 through 8

The CFII at POIs 3 and 4 is below 5%. The DFG-NMFS Draft Guidelines state that if the CFII is less than 5% “there is little chance of significant cumulative impacts due to the diversion and the project does not require additional studies to assess these impacts.”

The CFII values at POIs 5 through 8 are between 5 and 10%. According to the DFG-NMFS Draft Guidelines the level of impairment identified by the CFII will determine the likely study effort needed to address the significance of cumulative impacts of a new water right project. In cases where the CFII is between 5 and 10%, “the Applicant must provide additional hydrologic analysis documenting the estimated effects of cumulative diversions on the stream hydrograph at the POIs during three representative normal and two representative dry years” and “additional site-specific study may be warranted” (see above for a summary of the additional hydrologic analysis and the site-specific

¹⁰ The Reservoir Outlet Channel is a Class III ephemeral channel upstream of where the reservoir spillway pipe discharges into it.

¹¹ Upstream of POD 2 Sulphur Creek is a Class III ephemeral channel.



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0 0.1 0.2 Miles

Figure 3
Sulphur Creek Watershed and Upstream Limits of Anadromy

fisheries study performed at the uppermost POIs). However, NMFS has indicated that for streams in non-coho, non-Chinook anadromous watersheds (steelhead-only streams), additional hydrological analysis is not needed where the CFII is less than 10% (Hearn pers. comm.). Per Table 3.0-1 in Appendix B of the Division's Staff Report for the Russian River Watershed dated August 15, 1997, Big Sulphur Creek is indicated to be a non-coho, non-Chinook stream (State Water Resources Control Board 1997).

Division staff have indicated that the referenced Staff Report may not be comprehensive, and it may therefore be necessary to determine whether Big Sulphur Creek supports and historically supported coho or Chinook salmon. As such, the Consultant has determined that Big Sulphur Creek historically has not supported and presently does not support coho or Chinook salmon (refer to the Biological Resources section of this document for a summary of the literature search performed by the Consultant). In brief, based on the DFG-NMFS Draft Guidelines, effects on streamflows at POIs 3 through 8 can be considered insignificant with no further analysis needed.

Finally, for the POIs on Big Sulphur Creek (POIs 5 through 8) that have CFII values between 5 and 10%, the proposed diversion only precipitates (increases) the CFII values by 0.1% in two cases (POIs 5 and 7), compared to existing diverters.

The low CFII values indicate that there is sufficient water supply in the watershed for the proposed project and approval of the application should not adversely affect any senior water right holders. Based on the CFII results, the consultants have concluded that impacts to water volumes and seasonal flow patterns from project implementation would be less than significant. There is no significant cumulative impact to the natural hydrograph of Sulphur Creek or Big Sulphur Creek as a result of the proposed project.

Bypass Flow Location Justification

As described in the report titled *Application 31095 of Barry Hoffner - Point of Diversion 2 (Sulphur Creek) Assessment / Draft Bypass Flow Compliance Plan* (ICF Jones & Stokes 2010b), a site visit consisting of members from the Division, DFG, NMFS, Wagner & Bonsignore, and ICF Jones & Stokes occurred on May 27, 2010. During the site visit, all project facilities and components (including POD 2 on Sulphur Creek) were examined, and the next steps for permitting Application 31095 were discussed. A consensus was reached by the group that further analysis of POD 2 on Sulphur Creek was warranted and that Wagner & Bonsignore and ICF Jones & Stokes were to develop a preliminary means of bypassing the appropriate amount of water (the FMF of 0.5 cfs) on Sulphur Creek. The group agreed that bypass efforts should be focused solely on POD 2 on Sulphur Creek.

POD 1 is essentially the face of the dam at the reservoir. There is a tributary complex (the Tributary 1 Complex) that indirectly connects to the reservoir via underground water movement; it does not appear to flow directly into the reservoir as most flows either go underground or get trapped behind the road that circles the reservoir. Most importantly, the Tributary 1 Complex does not convey a significant amount of water (with a drainage

area to the reservoir of only 9 acres and a corresponding FMF of only 0.03 cfs [Wagner & Bonsignore 2009]), as directly witnessed during large precipitation events in 2010 and 2011. Per the 2002 DFG-NMFS Draft Guidelines, bypass of all flows up to the FMF is intended to protect spawning and incubation flows. However, in this case the ULA is far downstream and thus the effect of bypassing or not bypassing all flows up to 0.03 cfs at POD 1 would not make a significant difference to flows at the ULA.

POD 2 is the optimal bypass location because it is surrounded by stable banks and has a deep pool behind a masonry wall dam that will allow the Applicant to bypass all flows up to and including the FMF, and make diversions to the reservoir when flows exceed the FMF. The masonry wall dam at the POD 2 currently has two pipes embedded in it that originate in the pool, go through it, and then lead to the reservoir. As such, the existing facility can be modified with minimal disturbance to aquatic resources to passively facilitate bypass of the FMF of 0.5 cfs before diversions are made to the reservoir. Additionally, POD 2 has a pool that is easy to maintain. It is very accessible from both the downstream and upstream direction, and has an even channel bottom that could be regularly excavated if excess sediment were to be deposited. Finally, POD 2 is located on a channel (Sulphur Creek) that provides seasonal habitat for amphibians and benthic macroinvertebrates (BMI). Bypass efforts are best focused here in Sulphur where there is available habitat.

As described previously, the reservoir has an outlet pipe that discharges into the Reservoir Outlet Channel. Though not considered a bypass, this pipe constantly spills during the wet season because the reservoir fills up quickly and typically stays full during the diversion season. Any concerns about a decrease in outlet pipe flow because of the presence of a bypass facility on POD 2 are minimal as the spring-fed nature of the reservoir enables it to fill quickly and stay filled. As such, the hydrology and aquatic resources of the Reservoir Outlet Channel downstream of the outlet pipe (where the channel is considered a Class II channel) will not change because of the presence of the bypass at POD 2.

g iii. Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in a significant reduction in the available aquatic habitat or riparian habitat for native species of plants and animals?

As stated above, operation of PODs 1 and 2 will not significantly change the water volume and/or the pattern of seasonal flows in the affected watercourse, and therefore will not reduce the available aquatic habitat or riparian habitat for native species of plants or animals. Furthermore, compliance with the following permit term, substantially as follows, would ensure the proposed project does not result in any significant impacts to available aquatic habitat or riparian habitat for native species of plants or animals:

- No water shall be diverted under this right unless the flow in the Unnamed Stream (Sulphur Creek) is at or above 0.5 cubic feet per second, as measured at point of diversion 2.

In addition to the permit term described above, a Point of Diversion 2 Assessment / Draft Bypass Flow Compliance Plan (Plan) has been submitted to the Division, DFG,

and all protesters (ICF Jones & Stokes 2010b). Under the terms of this Plan, the Permittee is required to passively bypass all jurisdictional channel flows from incipient trickle up to a minimum of the FMF, which has been determined by analysis to be 0.50 cubic feet per second (cfs). This bypass will occur entirely at POD 2. No measurement of the bypass will be required –the diversion structure has been designed to passively bypass the FMF before any diversion can occur, and thus bypassed flows need not be measured. Diversion to storage will occur only when flow is greater than 0.50 cfs. The permissible season of diversion shall be December 15 through March 31. The Plan describes a design intended to produce the desired bypass flows. Key components of the Plan are discussed below.

A proposed design for modification of the masonry wall dam at POD 2 to facilitate bypass flows is included in the report titled *Application 31095 of Barry Hoffner - Point of Diversion 2 (Sulphur Creek) Assessment / Draft Bypass Flow Compliance Plan* (ICF Jones & Stokes 2010b¹²). The design involves breaking out a portion of the wall to accommodate a 5" diameter pipe penetration located at the flow line of the stream channel, and a 3" diameter pipe penetration for diversions. After the pipes are in place the demolished portion of the wall will be replaced with concrete. On the upstream side of the wall the 3" pipe would have an elbow up and the inlet to the 3" pipe would be set 4.5" above the centerline of the 5" pipe. Low flows will pass through the 5" bypass pipe. As flow increases, the 5" pipe will become restrictive and the water level on the upstream side of the wall will increase, i.e. build up head. Once the water level reaches 4.5" above the centerline of the 5" bypass pipe flow will spill over into the 3" pipe, like a drop inlet, while the FMF continues to pass through the 5" pipe. A screen on the 3" pipe entrance will keep debris from entering the pipe.

The design is based on bypassing the FMF of 0.5 cfs (about 225 gpm). The 4.5" dimension is based on the page 4-19 in *Handbook of Hydraulics, Sixth Edition*, by Brater and King (1976), which discusses the hydraulics of "short tubes" (essentially the calculation is based on the orifice equation, $Q = CA(2gH)^{1/2}$ with $C = 0.75$, which is Brater & King's recommended average coefficient for short tubes). Because the proposed diversion pipe is the same diameter as the existing diversion pipe, the proposed design conforms to the Applicant's concurrence at the May 27, 2010 site meeting that the diversion capacity will be no greater than what is currently in place at the POD.

Other components not discussed in the Plan that are applicable to the requested diversion are summarized below.

General Compliance Actions

- The bypass system and natural channel section upstream of the POD will be monitored to minimize risk of debris accumulation.

¹² A Final Bypass Flow Compliance Plan will be developed by the Applicant's agent, Wagner & Bonsignore. The Final Bypass Flow Compliance Plan will discuss all of the components described below in more detail, including the type of staff gage that will be used in the reservoir.

Non-Season of Diversion Compliance Actions

- Permittee is required to passively bypass all jurisdictional channel flows during the period of April 1 through December 14. This will be accomplished by closing the valve on the 3" diversion pipeline during this period.

Season of Diversion Compliance Actions

- During the diversion season flows in excess of 0.50 cfs, up to the capacity of the 3" diversion pipe and in any case not exceeding 1 cfs, would be diverted to the reservoir, which has an emergency overflow (the reservoir spillway pipe) for safety purposes.

Record Keeping and Reporting

- The Permittee shall keep a log of weir observation and maintenance activities that should include information necessary to ensure compliance with permit restrictions and requirements.
- Reservoir stage data may be used as an aid to evaluate managerial functions.
- Monitoring data shall be maintained by the Permittee for ten years from the date of collection and be made available to the Deputy Director for Water Rights.

Schedule for Implementation

- The modification to the bypass system shall occur only after use of water is authorized.

Ongoing Maintenance

- The Permittee shall be responsible for facility maintenance and inspection, and shall implement corrective action as required for satisfactory performance.
- Bypass flow system inspections shall occur at least weekly during the rainfall season, the frequency of which shall increase during the diversion season.

Modifications to Proposed Bypass Flow Compliance Plan

- The Permittee reserves the right to propose changes in the Plan based on future design or operational changes; however, the scope of the Plan shall not be affected by any such proposed changes. All proposed changes are subject to approval by the State Water Resources Control Board.

Channel Maintenance

Naturally occurring flows necessary for channel maintenance will still occur because operation of the proposed POD 2 on Sulphur Creek will not significantly change the water volume and/or the pattern of seasonal flows in the affected watercourse. Sulphur Creek appears only to support intermittent transport of fines and larger materials, as do the surrounding hillslopes. Intermittent transport of sediment within the channel occurs when it is delivered to the channel by naturally-occurring upstream runoff events. After modification of the POD, upstream streamflow will still be routed into the pool where the POD is located. The hydrologic cycle and related transport of sediment will remain in the channel system. Sediment delivery and transport to downstream reaches after proposed POD modification will therefore occur at approximately the same rate as at present.

g iv and v. Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in: iv) a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream?; or v) a substantial increase or threat from invasive, non-native plants and wildlife?

The proposed project will not result in a change in the water volume and/or the pattern of seasonal flows in the affected watercourse that would cause either a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream or a substantial increase or threat from invasive, non-native plants and wildlife, for reasons discussed above and below in the Biological Resources section.

Additional Terms

To ensure that water is diverted in accordance with the project description and to minimize the project's potential to cause impacts to hydrology and water quality, the following permit terms, substantially as follows, shall be included in any permit or license issued pursuant to Application 31095:

- The capacity of the reservoir covered under this permit (Application 31095) shall not exceed 24 acre-feet.
- The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed a total of 24 acre-feet per annum to be collected from December 15 of each year to March 31 of the succeeding year.
- No water shall be diverted under this right unless the right holder is recording water levels in the reservoir. This recording shall be conducted using a device, satisfactory to the Deputy Director for Water Rights. The device shall be capable of recording water surface levels from the maximum high water line to the minimum water line known to exist for the reservoir, and shall be properly maintained.

The right holder shall provide the Division of Water Rights with evidence that the device has been installed and the reading corresponding to the high water line of

the reservoir with the first annual report submitted after device installation. The right holder shall provide the Division of Water Rights with evidence that substantiates that the device is functioning properly every five years after device installation as an enclosure to the current annual report or whenever requested by the Division of Water Rights.

The right holder shall maintain a record of maximum and minimum water surface levels for each month and the dates these levels were reached. The records shall be submitted with the annual report or whenever requested by the Division of Water Rights. The State Water Resources Control Board may require release of water held in storage that cannot be verified by monthly records. Failure to maintain or submit the required records may result in the requirement to release the entire content of the reservoir's storage.

- Based on the information in the Division's files, water has not been used under a claimed existing right on the place of use. If right holder exercises a claimed existing right on the place of use authorized by this right without prior approval from the State Water Board, right holder shall forfeit this water right.
- Permittee shall report any non-compliance with the terms of the permit to the Deputy Director for Water Rights within three days of identification of the violation.

5. BIOLOGICAL RESOURCES

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the DFG or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the DFG or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Study Area

For biological resources, the study area consists of the approximately 100-acre property (Figure 1). The study area includes the reservoir and POU for irrigation, which encompasses approximately 17 acres within the property (Figure 3). The baseline conditions in the study area and the proposed project (i.e., past and proposed project activities in the study area) are described below.

Baseline

The baseline conditions pertaining to biological resources in the study area consist of natural communities and developed areas that were present on August 29, 2000, because that is when Application 31095 was accepted by the Division. Developed portions of the study area in August 2000 consisted of the reservoir; 17 acres of cleared, graded, and disced vineyard; and the masonry wall dam at the bypass facility at POD 2 (Figure 3). The 17 acres were cleared, graded, and disced in the late 1990s; as such, no regrowth of woody vegetation (i.e., trees and shrubs) in these areas occurred at the time of baseline conditions. The remainder of the study area has been undeveloped.

Proposed Project

The proposed project includes development activities that have already been completed by the Applicant and an additional development activity that is pending approval of the proposed project. The development activities that have already been completed are the planting of grape vines and the installation of the irrigation system. The development activity that is pending is the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows.

Methodology

Prior to the Applicant's purchase of the property in 2003, specific direction was given to the Applicant by the State Water Board to conduct studies for certain rare plants and animals considered "special status species" and known to potentially exist within the proposed project area because, at that time, the Application sought both reservoir enlargement and an increase in POU acreage. These directions were most likely based on current available knowledge of all potential animals and plants in the proposed project area through a review of pertinent literature, reconnaissance-level site assessments, informal consultation with regulatory agencies, and a California Natural Diversity Database (CNDDDB) search.

Since the Applicant now does not propose to enlarge his reservoir nor clear additional acreage for planting, there are no impacts to terrestrial biological resources. As stated previously, at the time the application was filed the 17-acre POU had been cleared, graded, and disced; as such, impacts to terrestrial biological resources within the 17-acre POU can be dismissed with no further analysis needed. The focus of this section is therefore sensitive plants, fish, and other aquatic and riparian species in the POD 2 area and the downstream watershed. A summary of the findings from the Kjeldsen Biological Consulting 2003 report is presented below.

Additionally, in 2011, a list and a map of regionally occurring special-status plant and animal species was prepared based on the results of a CNDDDB query (California Natural Diversity Database 2011) of all reported occurrences of special-status species within the project region (Appendix A). The review was conducted to determine if

changes to potentially occurring special status species have occurred since surveys were conducted by Kjeldsen Biological Consulting in 2001 and 2002. Appendix A contains an inventory of rare and endangered plants from the California Native Plant Society (CNPS) (California Native Plant Society 2011) as well as a list of endangered and threatened species that may occur in Sonoma County and the Asti USGS 7.5-minute quadrangle from the USFWS (U.S. Fish and Wildlife Service 2010).

Previous Biological Report Findings

Between April 2001 and May 2002, Kjeldsen Biological Consulting conducted surveys for biological resources that may be affected by the project as it was proposed at that time. The study focused on evaluating the project for the existence of or the potential existence of any special-status species. The study was also undertaken to determine if there is any “critical” or “sensitive” habitat (including jurisdictional wetlands) that should be avoided or mitigated for.

The findings of the Kjeldsen Biological Consulting (2003) report that are applicable to the current Application are:

- The study area is part of a ranch that has been used for livestock grazing.
- The plant communities on the property consist of Valley and Foothill Woodland (Valley Oak Woodland, Coastal Oak Woodland), Valley and Foothill Grassland, Riparian Corridors, Mixed Chaparral, and Lacustrine.
- The PODs are on stream channels that have no fish populations.
- The topography of the property is such that ground unsuitable for vineyards provides wildlife corridors that traverse the site.
- *Calystegia collina* ssp. *oxyphylla* (the Mount Saint Helena Morning-glory) was found at the edge of a burn pile during one year of the study. Subsequent visits during year two of the study failed to locate this plant and Kjeldsen Biological Consulting suspect that it was a temporary inhabitant of a disturbed area. It is probable that this plant occurs elsewhere on the property; however Kjeldsen Biological Consulting was not able to locate it anywhere else. This plant has no State or Federal status but was listed by the CNPS in 2003 (and still is in 2011) as a plant of limited distribution – a watch list.
- No other special-status plant or animal species were observed on the proposed project area or on the edge of it and all field indications are such that there is no reason to suspect the occurrence of any special-status species.
- Kjeldsen Biological Consulting did not find any of the special-status plant or animal species known for the Asti quadrangle, the surrounding quadrangles, or the region. An analysis of the target species specific to the proposed project area was made as a result of their fieldwork (a full list of the CNPS special-status

plants for the habitat and the Rare Find-2 for the quadrangle and surrounding quadrangles is presented in Appendix B and C of the report)¹³.

- Kjeldsen Biological Consulting conclude that it is unlikely that any of the target special-status plant species would occur in the proposed project area given the soils, the lack of any records in the near proximity, the topography, and plant associated present.
- A wetland is located at the base of the reservoir¹⁴.
- The flora and fauna observed on the property are listed in Appendix A of the report.
- There are mature Oaks on the property and within portions of the POU¹⁵.
- There are no historical or recent records for California tiger salamander or California red-legged frog in or near the vicinity of the proposed project area.
- There is limited potential habitat on the project site for foothill yellow-legged frog, since the streams on the project site are seasonal and do not provide habitat.
- There is potential habitat for the Western pond turtle in the existing reservoir. No individuals were observed in the reservoir, although they are likely to exist.

Regulatory Setting

This section provides an overview of the laws and regulations that influence the management of biological resources in the proposed project area. Although many of these regulations will not apply to the project because the resources in question are avoided, they are discussed here to provide context in determining which biological resources are considered *sensitive* for the purposes of this report and to discuss potential project-related effects.

¹³ Also see Appendix A of this document for a list and map of regionally occurring special-status plant and animal species based on the results of a 2011 CNDDDB query as well as an inventory of rare and endangered plants from the CNPS and a list of endangered and threatened species that may occur in Sonoma County and the Asti USGS 7.5-minute quadrangle from the USFWS.

¹⁴ ICF Jones & Stokes (2010a) describe this wetland feature as a small pond, or wetland, located on the immediate other side of the northern perimeter road of the reservoir. This pond is approximately 1,511 square feet in area (Figures 1 and 3). This small pond, or wetland, looks like an extension of the reservoir itself; however, it has been created by the berming effect of the reservoir perimeter road trapping flow from nearby seeps and springs.

¹⁵ Under the current Application, the POU will not increase in size. As such impacts to Oaks are negligible.

Federal Regulations

Endangered Species Act (ESA)

USFWS and the NMFS have jurisdiction over species listed as threatened or endangered under Section 9 of the ESA. In general, NMFS is responsible for protection of ESA-listed marine species and anadromous fish, and USFWS is responsible for other listed species. ESA protects listed species from harm, or *take*, which is broadly defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” For any project involving a federal agency (in this case, the USACE) in which a listed species could be affected, the federal agency must consult with USFWS in accordance with Section 7 of ESA. USFWS issues a biological opinion (BiOp) and, if the project does not jeopardize the continued existence of the listed species, issues an incidental take permit. When no federal nexus is present, proponents of a project affecting a listed species must consult with USFWS and apply for an incidental take permit under Section 10 of ESA. Section 10 requires an applicant to submit a habitat conservation plan (HCP) that specifies project impacts and mitigation measures. Consultation with USFWS will be required if the proposed project will affect federally listed species or their habitat.

Section 404 of the Clean Water Act

The CWA was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers the EPA to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. *Point-source pollution* is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. *Nonpoint-source pollution* originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation’s waters are unlawful unless specifically authorized by a permit; permit review is the CWA’s primary regulatory tool. The following sections provide additional details on specific sections of the CWA.

Permits for Fill Placement in Waters and Wetlands (Section 404)

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States, which are oceans, bays, rivers, streams, lakes, ponds, and wetlands, including any or all of:

- Areas within the OHWM of a stream, including non-perennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned.
- Seasonal and perennial wetlands, including coastal wetlands.

On January 9, 2001, the U.S. Supreme Court made a decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* (SWANCC) [121 S.Ct. 675, 2001] that affected the USACE's jurisdiction in isolated waters. Based on SWANCC, the USACE no longer has jurisdiction or regulates isolated wetlands (i.e., wetlands that have no hydrologic connection with water of the United States).

More recently, a federal ruling on two consolidated cases (June 19, 2006; *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers*), referred to as the *Rapanos decision*, affects whether some waters or wetlands are considered jurisdictional under the CWA. In these cases, the U.S. Supreme Court reviewed the USACE's definition of waters of the United States and whether it extended to tributaries of traditional navigable waters (TNW) or wetlands adjacent to those tributaries. The decision provided two standards for determining jurisdiction of water bodies that are not TNWs:

1. If the non-TNW is a relatively permanent water (RPW) or is a wetland directly connected to an RPW, or
2. If the water body has "significant nexus" to a TNW. The significant nexus definition is based on the purpose of the CWA ("restore and maintain the chemical, physical, and biological integrity of the Nation's waters").

Guidance issued by the EPA and USACE on the *Rapanos* decision requires application of these two standards and use of substantially more documentation to support a jurisdictional determination for a water body.

Applicants must obtain a permit from the USACE for all discharges of dredged or fill material into waters of the United States, including adjacent wetlands, before proceeding with a proposed activity. The USACE may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. The nationwide permits (NWP) are a type of general permit issued to cover particular fill activities. Each NWP specifies particular conditions that must be met for the NWP to apply to a particular project.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. The USACE cannot issue an individual permit or verify the use of a general permit until the requirements of the National Environmental Policy Act (NEPA), ESA, and the National Historic Preservation Act have been met. In addition, the USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the NPDES program, administered by EPA. In California, the State Water Board is authorized by EPA to oversee the NPDES program through the RWQCBs (see the related discussion under State of California, Porter-Cologne Water Quality Control Act). The study area is located within the jurisdiction of the San Francisco Bay RWQCB.

NPDES permits are required for projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent (NOI) to discharge stormwater, and to prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Applicants are required to conduct annual monitoring and reporting to ensure that BMPs are implemented correctly and effective in controlling the discharge of stormwater-related pollutants.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) also must comply with CWA Section 401.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (Title 16, United States Code [USC], Part 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 Code of Federal Regulations [CFR] 21, 50 CFR 10). Most actions that result in taking of or the permanent or temporary possession of a protected species constitute violations of the MBTA. The MBTA also prohibits destruction of occupied nests. The Migratory Bird Permit Memorandum (MBPM-2) dated April 15, 2003, clarifies that destruction of most unoccupied bird nests is permissible under the MBTA; exceptions include nests of federally threatened or endangered migratory birds and bald eagles and golden eagles. USFWS is responsible for overseeing compliance with the

MBTA. Most bird species and their occupied nests that occur in the proposed project area would be protected under the MBTA.

State of California

California Environmental Quality Act

CEQA is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. Although threatened and endangered species are protected by specific federal and state laws, the State CEQA Guidelines Section 15380(b) provides that a species not listed under ESA or CESA may be considered rare or endangered if it can be shown that the species meets certain specific criteria. The criteria have been modeled after the definitions of ESA and sections of the California Fish and Game Code discussing rare and endangered plants and animals.

A project normally is considered to result in a significant environmental effect (in the context of biological resources) if it substantially affects a rare or endangered species or the habitat of that species; substantially interferes with the movement of resident or migratory fish or wildlife; or substantially diminishes habitat for fish, wildlife, or plants. The State CEQA Guidelines define *rare, threatened, or endangered species* as those listed under ESA and CESA, as well as any other species that meets the criteria of the resource agencies or local agencies—for example, the DFG-designated species of special concern and plant species assigned a Rare Plant Rank by DFG. The State CEQA Guidelines specify that the lead agency preparing a CEQA compliance document must consult with and receive written findings from USFWS and DFG concerning project impacts on species that are listed as endangered or threatened. The effects of the project on these species and habitats will be important in determining whether the project is considered to cause significant environmental impacts under CEQA.

California Endangered Species Act

California implemented CESA in 1984. The act prohibits the take of endangered and threatened species; however, habitat destruction is not included in the state's definition of *take*. Under CESA, *take* is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include harm or harassment. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and promote conservation of these species. DFG administers the act and authorizes take through Section 2081 agreements (except for species designated as fully protected). Regarding rare plant species, CESA defers to the California Native Plant Protection Act of 1977 (CNPPA), which prohibits importing rare and endangered plants into California, taking rare and endangered plants, and selling rare and endangered plants. State-listed plants are protected mainly in cases where state agencies are involved in projects under CEQA. In these cases, plants listed as rare under the CNPPA are not protected under CESA but can be protected under CEQA.

California Native Plant Protection Act

The CNPPA prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. The CESA defers to the CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected under CESA but rather under CEQA.

California Fish and Game Code

Sections 3503 and 3503.5

Section 3503 of the California Fish and Game Code prohibits the killing of birds and/or the destruction of occupied bird nests. Section 3503.5 prohibits the killing of raptor species and/or the destruction of occupied raptor nests. Consultation with DFG will be required if nesting birds would be affected by project-related activities.

Section 3511 (Fully Protected Birds)

The California Fish and Game Code provides protection from take for a variety of species, referred to as *fully protected species*. Section 3511 lists fully protected birds and prohibits take of these species. The California Fish and Game Code defines take as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Except for take related to scientific research, all take of fully protected species is prohibited.

Section 3513

Section 3513 of the California Fish and Game Code prohibits the take or possession of any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Section 4700 (Fully Protected Mammals)

Section 4700 of the code lists fully protected mammals and prohibits take of these species. Except for take related to scientific research, all take of fully protected species is prohibited.

Section 1602—Lake and Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires project proponents to notify DFG before implementing any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, DFG is required to propose reasonable changes to the project to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Porter-Cologne Water Quality Control Act

California Water Code Section 13260 requires “any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements [WDRs]).” Under the Porter-Cologne Water Quality Control Act definition, *waters of the state* are “any surface water or groundwater, including saline waters, within the boundaries of the state.” Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not true. Therefore, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether the USACE has concurrent jurisdiction under CWA Section 404. If the USACE determines that a wetland is not subject to regulation under Section 404, CWA Section 401 water quality certification is not required. However, the RWQCB may impose WDRs if fill material is placed into waters of the state.

Local

Sonoma County Tree Protection Ordinance

The Sonoma County Tree Protection Ordinance is described in Article 88 of the Sonoma County Zoning Code (Sonoma County Permit and Resource Management Department 2005, 2010). Several agricultural uses are exempt from the Tree Protection Ordinance, including livestock, commercial aquaculture, commercial mushroom farming, and wineries. Therefore, the proposed project is exempt from compliance with the tree ordinance.

Environmental Setting

The study area is located on the upper south slopes of the Pine Mountain Ridge in Sonoma County in the Inner North Coast Ranges subdivision of the California Floristic Province (Hickman 1993:45). Approximate elevations in the study area range between 2,120 to 2,720 feet above mean sea level. Most of the land adjacent to the study area is partially developed, with other vineyards surrounding the study area in each direction.

As described in the Geology and Soils section, the dominant soil map unit in the study area is Los Gatos Loam, 30% to 75% slopes.

Climate data from the Healdsburg weather station indicates that the length of the growing season (based on 28°F air temperature thresholds at a frequency of 5 years in 10) is year-round. The climate in the study area is characterized by warm, dry summers and cool, rainy winters; the mean annual precipitation is approximately 42 inches, and the mean annual air temperature is 60°F. (Natural Resources Conservation Service 2011).

Land Cover Types¹⁶

The land cover types in the proposed project area were identified and described concurrent with survey efforts for special status species conducted by Kjeldsen Biological Consulting (2003). In general, Kjeldsen Biological Consulting (2003) has described the proposed project area as characterized by Valley and Foothill Woodland (Valley Oak Woodland, Coastal Oak Woodland), Valley and Foothill Grassland, Riparian Corridors, Mixed Chaparral, and Lacustrine.

To provide more information about the aquatic resources on the property, a stream classification report was conducted by ICF Jones & Stokes (2010a). The results are summarized below. Refer to Appendix 1 of the ICF Jones & Stokes (2010a) report for representative digital photographs of the aquatic features on the property, and refer to Figures 1 and 3 of this document for the locations of the aquatic features on the property.

Wetlands and Other Waters

The study area contains a wetland and other waters (non-wetlands) that represent potential waters of the United States. One reservoir, three ephemeral drainages, one intermittent drainage¹⁷, and one wetland (Figures 1 and 3) provide permanent and temporary aquatic habitats in the proposed project area¹⁸ and may be considered Waters of the United States under Section 404 of the Clean Water Act. The term “waters of the United States” is defined as:

¹⁶ The characterization of these land cover types is abbreviated and not discussed further because the Applicant has no intent to enlarge his reservoir nor disturb any terrestrial resources on the 17-acre POU as part of the proposed project. The only disturbance will be modifying the pre-existing masonry wall dam at POD 2 to create larger openings for the bypass pipe and pipe to the reservoir.

¹⁷ Sulphur Creek is Class III ephemeral channel from its headwaters until 75 feet above the POD complex on the neighbor's property, where it transitions to a Class II intermittent channel for approximately 570 feet. Downstream of this point, it is a discontinuous spring/seep-controlled Class II/III intermittent/ephemeral channel until the ULA (Figure 3).

¹⁸ Figures 1 and 3 also show a Recreational Pond along Pine Mountain Road. This pond is 9.7 af and is fully licensed (license #10536) and it not associated with the POU. It is owned by the Applicant on an adjacent property and is used for recreation and fire protection.

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands; or
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use or degradation of which could affect interstate or foreign commerce including any such waters.

An informal assessment of jurisdictional wetlands and other “waters of the United States” occurring within the proposed project area (ICF Jones & Stokes 2010a) identified the various water features as being potentially subject to USACE jurisdiction under Section 404 of the Clean Water Act. As of the preparation of this Initial Study, a formal wetland delineation, conducted according to USACE standards, has not been conducted and the exact extent of waters of the United States is unknown. However, for the reasons described above and below, no formal wetland delineation will be required because the Applicant does not propose to enlarge his reservoir or plant additional vineyard. In addition to potential USACE jurisdiction, the drainages may also be subject to the jurisdiction of DFG pursuant to Sections 1600–1603 of the Fish and Game Code.

The locations of potential waters of the United States are depicted on Figures 1 and 3.

Reservoir

Aerial photography shows that the main reservoir at POD 1 was constructed sometime prior to 1993 (Figure 2). The main reservoir collects some spring-fed discharge, some streamflow, sheetflow, and direct precipitation from a small, local watershed. Dimensions of the dam include a vertical height of 20 feet with an approximate embankment length of 200 feet, a storage capacity of 24 af, and an approximate surface area of 2.2 acres. Freeboard dam height above spillway crest is 1.4 feet, and maximum water depth is 18 feet. The reservoir is essentially unvegetated and supports only small patches of narrowleaf cattails (*Typha angustifolia*) along the northern and western edges. As mentioned previously, there is potential habitat for the Western pond turtle in the reservoir. No individuals were observed in the reservoir, although they are likely to exist.

Named and Unnamed Tributaries

As stated above, three ephemeral drainages and one intermittent drainage traverse the proposed project area and may be considered Waters of the United States under Section 404 of the Clean Water Act (Figures 1 and 3). The ephemeral drainages are labeled as the “Reservoir Outlet Channel”, the “Tributary 1 Complex”, and the “Class III Gully” (Figures 1 and 3) and only support pooled water and flow during storm events

(ICF Jones & Stokes 2010a). As mentioned previously, there is limited potential habitat on the project site for foothill yellow-legged frog, since the streams on the project site are seasonal and do not provide habitat. A brief description of each of these drainages is provided below, and additional information can be found in the report entitled *Barry Hoffner (Application 31095) - Stream Classification of Four Unnamed Drainages to Big Sulphur Creek and the Russian River, Sonoma County (June 22, 2009) (Final Updated Version)* (ICF Jones and Stokes 2010a).

Reservoir Outlet Channel

The Reservoir Outlet Channel is approximately 724 feet in length on the Hoffner property. It has its origins upstream of the reservoir at approximately the 2,400-foot contour. On the Hoffner property, approximately 437 feet of the Reservoir Outlet Channel is located upstream of the reservoir, and approximately 287 feet is located downstream of the reservoir. The length and exact course of the Reservoir Outlet Channel downstream of the Hoffner property is unknown. The channel characteristics of the Reservoir Outlet Channel are defined by the presence and position of the above-ground reservoir spillway pipe that conveys water into it from the reservoir. Upstream of the above-ground reservoir spillway pipe, the Reservoir Outlet Channel is a straight channel with defined bed and banks. The channel bottom is dominated by soft, loose sediments and duff. Slope is very steep. Downstream of the above-ground reservoir spillway pipe, the Reservoir Outlet Channel is also a straight channel with defined bed and banks. However, the channel bottom is dominated by compacted, fine sediments, as well as grasses, horsetails, and other wetland plant species. Slope is moderate immediately downstream of the above-ground reservoir spillway pipe, flattens out in a wetland area near an access road further downstream near the property boundary, then increases towards the southern portion of the Hoffner property. The Reservoir Outlet Channel is a Class II ephemeral channel downstream of the above-ground reservoir spillway pipe. Upstream of the above-ground reservoir spillway pipe it is a Class III ephemeral channel (Figures 1 and 3).

The Reservoir Outlet Channel may be used by amphibians and reptiles for foraging or dispersal habitat, but no suitable breeding habitat was identified during the reconnaissance-level survey conducted there in 2009. No evidence of aquatic fauna, including fish, amphibians (e.g., frogs, salamanders), or reptiles was observed in the channel during surveys conducted in 2009. This stream does not provide suitable habitat for fish.

Tributary 1 Complex

The Tributary 1 Complex consists of two gullies that run parallel to each other, both of which periodically deliver water to the main reservoir. Both originate from a vineyard perimeter access road to the north of the reservoir on an adjacent neighbor's property. The western gully is approximately 294 feet in length. It has a small tributary gully to its east that is approximately 138 feet in length. The eastern gully is approximately 290

feet in length. The Tributary 1 complex consists of relatively straight, very incised channels with defined bed and banks. Slope is moderate to steep. The channel bottom is dominated by coarse sediments (mostly gravels) derived from localized bank instability. The Tributary 1 Complex is Class III ephemeral channel network, meaning that the reservoir is located on a Class III channel network (Figures 1 and 3).

Channel complexity (i.e., habitat or channel units) is absent, due to the extremely incised nature of each tributary. No evidence of aquatic fauna, including fish, or non-fish vertebrates (e.g., frogs or salamanders) were observed in either tributary. Furthermore, no habitat to seasonally sustain fish (or other non-fish vertebrates and or aquatic benthic macroinvertebrates) exists in either tributary.

Class III Gully

On the south-central portion of the Hoffner property, there is a gully that originates at approximately the 2,200-foot contour ("Class III Gully" on Figures 1 and 3). This gully is approximately 1,396 feet in length before it joins the recreational pond along Pine Mountain Road. Spill from the recreational pond is directed into Sulphur Creek a few hundred feet downstream of it. The Class III Gully is a very straight, heavily incised channel with a significant amount of vegetation on the upper banks, but no significant vegetation on the channel bed. The natural channel bottom is dominated by fines and some gravels, and has defined bed and banks. Slope is very steep. The Class III Gully is a Class III ephemeral channel (Figures 1 and 3).

Habitat variability is extremely limited due to the high slopes and incised nature of the channel. No evidence of aquatic fauna, including non-fish vertebrates and aquatic benthic macroinvertebrates, was observed in the channel. Furthermore, no habitat to seasonally sustain fish (or other non-fish vertebrates and or aquatic benthic macroinvertebrates) exists in either tributary.

Sulphur Creek

Sulphur Creek (where POD 2 is located) is approximately 1,582 feet in length on the Hoffner property. It has its origins upstream of the reservoir at approximately the 2,600-foot contour, with the main channel originating from a reservoir on an adjacent neighbor's property below Pine Mountain. The total length of Sulphur Creek (from its headwaters to its confluence with Big Sulphur Creek) is approximately 14,619 feet. Sulphur Creek is relatively straight with a few areas of local sinuosity. It is generally heavily vegetated on the upland slopes, has a natural channel bottom dominated by mixed substrate (including bedrock), and has defined bed and banks. Slope is moderate. Sulphur Creek is a Class III ephemeral channel from its headwaters until 75 feet above a separate POD owned and operated by the landowners to the north, where it transitions to a Class II intermittent channel for approximately 570 feet. Downstream of this point, it is a discontinuous spring/seep-controlled Class II/III intermittent/ephemeral channel until the ULA (Figures 1 and 3).

No evidence of aquatic fauna, including fish, or non-fish vertebrates (e.g., frogs or salamanders) were observed in the channel. Furthermore, no habitat to seasonally sustain fish exists in the channel. However, evidence of aquatic benthic macroinvertebrates was observed (small insects underneath cobbles in one riffle). Sulphur Creek may provide foraging and dispersal habitat for amphibians and reptiles but possesses poor breeding habitat. Most of the pools observed were scour pools that receive high velocity flows, and the channel has a high canopy cover (i.e., minimal open areas for basking).

Wetland

ICF Jones & Stokes (2010a) describe the wetland feature as a small pond, or wetland, located on the immediate other side of the northern perimeter road of the reservoir. This wetland is approximately 1,511 square feet in area (Figures 1 and 3). This small pond, or wetland, looks like an extension of the reservoir itself; however, it has been created by the berming effect of the reservoir perimeter road trapping flow from nearby seeps and springs.

Special-Status Species

Special-status species are plants and animals that are legally protected under the CESA, the ESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. Special-status species are defined as:

- Species listed or proposed for listing as threatened or endangered under the ESA (Title 50, CFR, Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register (FR) for proposed species).
- Species that are candidates for possible future listing as threatened or endangered under the ESA (75 FR 69222, November 10, 2010).
- Species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (Title 14, California Code of Regulations (CCR), Section 670.5).
- Plants listed as rare under the CNPPA (California Fish and Game Code, Section 1900 et seq.).
- Plants considered by DFG and CNPS to be “rare, threatened, or endangered in California” (Rare Plant Ranks 1B and 2; California Department of Fish and Game 2010; California Native Plant Society 2011).
- Plants identified by DFG and CNPS about which more information is needed to determine their status, and plants of limited distribution (Rare Plant Ranks 3 and 4, California Department of Fish and Game 2010; California Native Plant Society 2011), which may be included as special-status species on the basis of local significance or recent biological information.

- Species that meet the definition of *rare* or *endangered* under the State CEQA Guidelines, Section 15380.
- Animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Animal species of special concern to DFG (California Department of Fish and Game 2011).

As stated above, Kjeldsen Biological Consulting (2003) did not find any of the special-status plant or animal species known for the Asti quadrangle, the surrounding quadrangles, or the region. Habitat suitable for potential sensitive species of concern, except for foothill yellow-legged frog and Western pond turtle, was dismissed by Kjeldsen Biological Consulting (2003). Furthermore, no candidate sensitive species would be impacted by the proposed modification of the masonry wall dam at POD 2, except for potentially the foothill yellow-legged frog. Finally, a recent search for special-status plant or animal species known for the Asti quadrangle or surrounding area showed none (see Appendix A).

Special-Status Plants

Appendix A lists the special-status plant species that were identified by the USFWS list for the Asti USGS 7.5-minute quadrangle and the queries of CNDDDB and CNPS for the Asti USGS 7.5-minute quadrangle and the surrounding eight quadrangles. As described above, no special-status plant species were observed in the proposed project area or on the edge of it and all field indications are such that there is no reason to suspect the occurrence of any special-status plant species. Special-status plants are not discussed any further because, as mentioned previously, the Applicant has no intent to enlarge his reservoir nor disturb any terrestrial plant resources on the 17-acre POU as part of the proposed project. The only disturbance will be modification of the pre-existing masonry wall dam at POD 2 to create larger openings for the bypass pipe and pipe to the reservoir.

Special-Status Wildlife

The species listed in the tables in Appendix A are derived from the USFWS list for the Asti quadrangle and the query of the CNDDDB for the Asti and surrounding eight quadrangles. Only one of the special-status species, the Western pond turtle, was identified as having a high potential to occur in the study area. No individuals were observed in the reservoir, although they are likely to exist. One additional species, the foothill yellow-legged frog, was identified as having a low potential to occur in the study area. Further discussion of these special-status wildlife species with potential for occurrence follows.

Western Pond Turtle

There is potential habitat for the Western pond turtle in the existing reservoir. No individuals were observed in the reservoir, although they are likely to exist. The nearest CNDDDB record is approximately 5 miles south of the study area (California Natural Diversity Database 2011).

The upland (non-vineyard) areas that surround the reservoir may be used by western pond turtles for egg laying. The tributaries in the study area generally do not represent potential habitat because they lack suitable escape habitat and have intermittent flows and limited basking opportunities. Western pond turtle may use these areas for dispersal.

Foothill Yellow-Legged Frog

Foothill yellow-legged frog has been documented approximately 3 miles to the southeast and 5 miles to the south of the study area (California Natural Diversity Database 2011). Foothill yellow-legged frogs may use the intermittent tributaries that retain pools that occur in the study area into late summer. The Tributary 1 Complex, the Reservoir Outlet Channel, and the Class III Gully provide only limited foraging opportunities because they are generally steep, incised channels with limited open areas for adult basking, little open shallow water habitat for egg-laying and tadpole-rearing, and limited pool habitat for escape cover. Sulphur Creek consists mostly of boulder/cascade steps and scour pools and thus represents poor breeding habitat for yellow-legged frogs but could be used by non-breeding adults for foraging, basking, and dispersal.

Fisheries and Aquatic Resources

As described in the Hydrology and Water Quality section, the Consultant has determined that Big Sulphur Creek (and thus the Unnamed Stream aka Sulphur Creek) historically has not supported or presently does not support coho or Chinook salmon. Big Sulphur Creek or its tributaries are not critical habitat for the California Coastal Chinook Salmon ESU (70 FR 52488). There is no record of the species in the watershed from Jones (2000). Redd surveys in the Russian River watershed did not find any evidence of spawning by Chinook salmon in Big Sulphur Creek in November 2005 (Cook 2006), with the spawning habitat described as marginal; spawning did occur elsewhere in the Russian River watershed during the same period. Central California Coast coho salmon historically did not occur in the Big Sulphur Creek watershed (Spence et al. 2005)—the area therefore is not critical habitat for this ESU (64 FR 24049). There is no indication of recent occurrence (Jones 2000). CalFish interactive mapping of known fish barriers and known fish presence in California streams also does not indicate the presence of Chinook or coho salmon in the Big Sulphur Creek watershed (CalFish 2009).

Special-status fish species potentially occurring in Big Sulphur Creek and its tributaries include steelhead (*Oncorhynchus mykiss*). Big Sulphur Creek and several of its tributaries are part of the critical habitat for the Central California Steelhead DPS (70 FR 52488). The most recent surveys for steelhead in the Big Sulphur Creek watershed reported by DFG (2006) were electrofishing collections of juveniles in 2000. Steelhead were historically found in surveys conducted in 1957, 1964-65, and 1974-75. Big Sulphur Creek was historically annually stocked with 10,000 steelhead that were rescued from stranding at locations inside and outside the watershed (Shapovalov 1944).

DFG (2006) describes other species collected in Big Sulphur Creek. In the most recent electrofishing surveys, these fish species included California roach (*Hesperoleucus symmetricus*), Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), and smallmouth bass (*Micropterus dolomieu*).

The California freshwater shrimp has been federally listed by the USFWS as endangered under the federal Endangered Species Act (53 FR 43889, October 30, 1988) and was also state-listed as endangered by DFG on October 2, 1980. Shrimp and shrimp habitat are not known to occur in the Asti quadrangle, Sulphur Creek, nor Big Sulphur Creek (California Natural Diversity Database 2011).

Upstream Limit of Anadromy (ULA)

On August 31, 2009, an ICF Jones & Stokes fish biologist and an ICF Jones & Stokes fluvial geomorphologist surveyed the Sulphur Creek drainage for the purpose of locating the ULA. Sulphur Creek was surveyed on foot from the confluence of Big Sulphur Creek to POI 3 to determine the occurrence and location of impediments to fish passage (i.e., excessive vertical drops or channel gradients that impede fish migration). The ULA was determined to be the most downstream impassable channel segment and was identified by comparing physical dimensions of impediments observed in the field against established fish passage criteria for vertical barriers (Bjornn and Reiser 1991).

Nine significant impediments to fish migration were documented (see Appendix 1 of the ICF Jones & Stokes [2010a] report). The physical dimensions of these nine impediments are described in Table 3 of the ICF Jones & Stokes (2010a) report. Based on the physical dimensions of the observed impediments, the second most upstream impediment was determined to be the absolute ULA, and it is located approximately 718 feet downstream of POI 3 (Figure 3). The ULA consists of a split-level vertical drop with an overall vertical height of 12.5 feet and a horizontal jump distance of 10.2 feet (see Table 3 of the ICF Jones & Stokes [2010a] report). Based on the residual pool depth of 2 feet, the vertical jump height of this impediment was determined to be 10.5 feet. Although the pool at the base of the waterfall has the potential to fill with water during high flows to create a maximum residual pool depth of 3.5 feet, this complex waterfall would be still be a 9-foot high barrier to migrating fish. This excessive vertical jumping distance, combined with the excessive horizontal jumping distance and relatively shallow residual pool depth (at a minimum, pool depths should be 1.25 times

the vertical jump height [Bjornn and Reiser 1991]), creates an impassable barrier to migrating adults under all stream flow conditions, since the resultant vertical jump is 9 feet.

Although other impediments downstream of the identified ULA also failed to meet fish passage criteria for vertical barriers, the lack of stream flow on the day of the survey prevented the survey team from observing potential mitigating factors that flowing water may provide at these downstream waterfalls and steep channel sections that could allow some adult anadromous salmonids (i.e., steelhead) to pass. Accordingly, a conservative approach was used to determine the absolute ULA. One such impediment where it was difficult to determine whether mitigating factors could create conditions to allow for some adults to pass was a series of vertical drops located within a locally steep channel segment (labeled as “12% Gradient Reach” on Figure 3). At this location, the difference in elevation between the downstream and upstream endpoints was approximately 40 feet over a measured channel length of 340 feet (approximately 104 meters), resulting in a channel bedslope of 12%. As suggested in the *Policy for Maintaining Instream Flows in Northern California Coastal Streams* (State Water Resources Control Board, Division of Water Rights 2007), channel slopes of 12% or greater are considered to be the ULA.

In brief, the ULA (posed by a vertical drop) associated with this project is the point shown on Figure 3 below POI 3. The closest place to the Hoffner property that provides suitable habitat for fish life stages, however, is well below this area in the steep area where Sulphur Creek joins the second major tributary from its confluence with Big Sulphur Creek (labeled as “12% Gradient Reach” on Figure 3).

For additional information about the ULA and the methods used to determine it, refer to the ICF Jones & Stokes (2010a) report.

Impact Discussion

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The proposed project did not and does not have the potential to adversely affect special-status species and their habitats as the result of development activities that already have been completed by the Applicant and additional development activities that are pending approval of the proposed project.

The development activities that have already been completed are the planting of grape vines and the installation of the irrigation system. The development activity that is pending is the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows. The design involves breaking out a portion of the existing masonry wall dam at the POD to accommodate a 5” diameter pipe penetration located at the flow

line of the stream channel, and a 3" diameter pipe penetration for diversions. After the pipes are in place the demolished portion of the wall will be replaced with concrete.

Impacts on Special-Status Plants

The land cover types in the study area that represent potential habitat for special-status plants are Valley and Foothill Woodland (Valley Oak Woodland, Coastal Oak Woodland), Valley and Foothill Grassland, Riparian Corridors, Mixed Chaparral, and Lacustrine.

Grape Planting/Irrigation System Installation

No sensitive or special-status species were identified in the field or via literature search as occurring or potentially occurring in the proposed project area. *Calystegia collina* ssp. *oxyphylla* (the Mount Saint Helena Morning-glory), a candidate plant, was found at the edge of a burn pile during one year of the Kjeldsen Biological Consulting (2003) study. However, direct impacts on any candidate plants were minimal and undetectable during the planting of grape vines and the installation of the irrigation system (Kjeldsen Biological Consulting 2003). Accordingly, this impact is considered less than significant.

Proposed Bypass Facility Modification

Modification of the masonry wall dam at POD 2 that will be required to allow bypass flows will not affect any candidate, sensitive, or special-status species. The establishment of buffers and other appropriate measures will not be required during the modification of the masonry wall at POD, due to the small scale of the modification of POD 2. It is anticipated that no disturbance to Sulphur Creek or its surrounding streambanks will occur. All tools required for modification of the masonry wall dam at POD 2 will be carried into the stream corridor by hand and no erosion of the streambanks or channel bed will occur. Any leftover masonry material will be carried out and disposed of properly. Accordingly, impacts associated with modification of the masonry wall dam at POD 2 are considered to be less than significant.

Impacts on Special-Status Wildlife

The proposed project has the potential to affect foothill yellow-legged frog. A discussion of the impacts for this species is provided below. Although Western pond turtle may occur in the study area, they will not be affected by the proposed project as the Applicant has no intent to modify his reservoir. Ongoing operation of the reservoir will not negatively affect any special-status animal species, since maintenance activities only consist of keeping the reservoir spillway clear of debris.

Potential Impact on Foothill Yellow-Legged Frog

Construction activities within Sulphur Creek could result in foothill yellow-legged frogs being killed and temporarily displaced from their habitat. Although this tributary was identified as providing poor breeding habitat for the species, it does represent suitable habitat for non-breeding adults. Once construction is complete, the modification of the instream bypass structure would not substantially alter the suitability of this habitat for foothill yellow-legged frog.

No other potential aquatic habitat in the study area will be affected by the proposed project. Any construction-related activities that result in the loss of any life stage of foothill yellow-legged frogs would be considered significant. Because the proposed modification of the bypass facility is planned to occur in late summer when flows in the Unnamed Stream (aka Sulphur Creek) are very low or nonexistent, the potential for this impact to occur is believed to be low.

The following permit terms will be included in any water right permits, orders or licenses pursuant to Application 31095 to reduce impacts on foothill yellow-legged frog to a less than significant level.

- Forty-eight hours prior to construction activities in the Unnamed Stream (aka Sulphur Creek) and the adjacent riparian habitat, a preconstruction survey for foothill yellow-legged frogs will be conducted by a qualified biologist. The biologist will be familiar with the foothill yellow-legged frog life cycle and will conduct appropriate surveys for the applicable life stage (eggs, larvae, adults). This survey will occur during daytime hours and will involve walking upstream along the channel edge at a starting point 25 feet downstream of POD 2. The total length of survey will be 50 feet. The surveyor will visually scan upstream areas of the channel and banks with binoculars looking for basking adults and then proceed upstream looking down into the channel for larvae and eggs (depending on the time of year). All observed amphibians will be identified and recorded to species and, where possible, photographs taken. The biological monitor will possess a Letter of Permission from the California Department of Fish and Game that authorizes the biologist for the capture and release of amphibians in case a foothill yellow-legged frog is observed in the work area. Survey results will be documented in a letter report and submitted to the Deputy Director of Water Rights.
- During work in Sulphur Creek and associated riparian habitat, a qualified biological monitor will be on site to ensure that no foothill yellow-legged frogs are harmed during the construction of the bypass structure. The biological monitor will possess a Letter of Permission from the California Department of Fish and Game that authorizes the biologist for the capture and release of amphibians in case a foothill yellow-legged frog is observed in the work area.

In addition, standard permit terms as described above in the Hydrology and Water Quality section will be included in any water right orders or licenses pursuant to

Application 31095, which will serve to protect aquatic habitat for foothill yellow-legged frog.

The past planting of grape vines and installation of the irrigation system would not likely have resulted in impacts on foothill yellow-legged frogs because no streams were identified in these areas or within 50 feet. This determination is based on the review of the USGS Asti 7.5-minute topographic quadrangle and historical aerial photographs available on Google Earth that predate the planting of these areas. Any impacts on special-status wildlife species from the planting of grape vines and installation of the irrigation system are considered to be less than significant.

Potential Impact on Western Pond Turtle

Although Western pond turtle may occur in the reservoir area, they will not be affected by the proposed project as the Applicant has no intent to modify his reservoir. Ongoing operation of the reservoir will not negatively affect this species, since maintenance activities only consist of keeping the reservoir spillway clear of debris. Additionally, to allow for the continued growth of wetland vegetation and for the protection of potential habitat of the western pond turtle, Permittee shall:

- Maintain existing setback around the reservoir authorized under this permit to encompass the interior of the upper embankment and the fringe of wetland vegetation surrounding the reservoir. No new ground disturbing activities shall occur within the setback area. Equipment access within the setback area shall be limited to activities necessary for the ongoing operation of the reservoir(s) and shall incorporate best management practices to minimize disturbance to water, soils, and vegetation. Natural vegetation shall be preserved and protected within the setback area. Planting of native vegetation within the setback area is allowed;
- Obtain approval of the United States Fish and Wildlife Service, Sacramento Endangered Species Office, and the California Department of Fish and Game prior to any future reservoir dredging operations. Permittee shall submit to the Deputy Director for Water Rights evidence of agencies' approval prior to any future reservoir dredging operations;
- Refrain from disturbing the fringe of emergent (wetland) vegetation in the reservoir during dredging operations;
- Make no introduction of non-native fish species into the reservoir; and
- Consult with the United States Fish and Wildlife Service and California Department of Fish and Game should any bullfrogs or non-native fish be discovered at or near the reservoir to develop and implement an acceptable bullfrog eradication program.

Potential Impact on Special-Status Fish and Other Aquatic Organisms

The past planting of grape vines and installation of the irrigation system did not affect special-status fish species or other aquatic organisms because no aquatic habitats were identified in these areas. This determination is based on the review of the USGS Mount Saint Helena 7.5-minute topographic quadrangle and historical aerial photographs available on Google Earth that predate the planting of these areas. Any impacts on special-status fish species or other aquatic organisms from planting of grape vines and installation of the irrigation system are considered to be less than significant.

The modification of the masonry wall dam at POD 2 that will be required to allow bypass flows will not affect any candidate, sensitive, or special-status fish because Sulphur Creek is a non-fish bearing stream. Disturbance to other aquatic organisms is expected to be temporary and minimal because, as mentioned above, the proposed modification of the bypass facility is planned to occur in late summer when flows in Sulphur Creek are very low or nonexistent.

Any impacts on special-status fish species or other aquatic organisms from the proposed modification of the bypass facility are considered to be less than significant.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Riparian habitat is considered sensitive because of its limited distribution and declining status resulting from urbanization, agricultural conversion, and its use by a large variety of wildlife species. Mixed oak forest is considered sensitive by the State Water Board, which requires that impacts on oak woodlands be offset through mitigation, and because oak woodlands also are declining in distribution.

Riparian Habitat

Grape Planting/Irrigation System Installation

The past planting of grapes and the installation of the irrigation system were unlikely to have had a substantial adverse effect on riparian habitat based on available information. Historical aerial photographs that predate the planting of these areas do not show any streams and associated riparian areas occurring within the development footprint. Additionally, the Applicant implemented 50-foot-wide setbacks from stream corridors as part of compliance with the terms and conditions of the Sonoma County Grading Permit and the Sonoma County Vineyard Erosion and Sediment Control Ordinance (Sonoma County Code, Chapter 30, Article V, Ord. No. 5216 § 2, 2000). Any impacts to riparian habitat or other sensitive natural community from the past planting of grapes and the installation of the irrigation system are considered to be less than significant.

Proposed Bypass Facility Modification

Impacts to the Unnamed Stream (aka Sulphur Creek) from the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows could occur. However, permit terms identified in the Hydrology and Water Quality section above would reduce impacts to the riparian habitat on the Unnamed Stream (aka Sulphur Creek) to a less than significant level. These include:

- No debris, soil, silt, cement that has not set, oil, or other such foreign substance will be allowed to enter into or be placed where it may be washed by rainfall runoff into the Waters of the State. When operations are completed any excess materials or debris shall be removed from the work area.
- Construction activities within 100 feet of any drainage shall only occur between May 15 and October 31 to minimize the potential for rainfall events to mobilize and transport sediment to aquatic resources.
- In order to prevent degradation of the quality of water during and after construction of the project, prior to commencement of construction, Permittee shall file a report pursuant to Water Code Section 13260 and shall comply with all waste discharge requirements imposed by the California Regional Water Quality Control Board, San Francisco Bay Region, or by the State Water Resources Control Board.

From a streamflow perspective, permit terms identified in the Hydrology and Water Quality section above will require the maintenance of appropriate bypass flows, which would ensure the proposed project doesn't result in any significant impacts to any riparian habitat or other sensitive natural community.

It is assumed that a Lake and Streambed Alteration Agreement pursuant to Section 1602 of the California Fish and Game Code will not be necessary before any action that would substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by DFG occurs. As described previously, the modification of the masonry wall at POD 2 will require minimal disturbance. Furthermore, the masonry wall is already in place, as is the pool behind it. No changes to the bed topography (or the streambanks) of Sulphur Creek or new flow obstructions will occur. A Lake and Streambed Alteration Agreement typically requires the establishment and maintenance of a vegetated buffer zone along waterways where diversions will occur. There is already a vegetated buffer zone on each streambank that is well over 250 feet on each side.

- c. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?***

The proposed project would not result in substantial adverse effects on federally protected wetlands in the study area.

Grape Planting/Irrigation System Installation

The past planting of grapes and the installation of the irrigation system were unlikely to have had a substantial adverse effect on federally protected wetlands based on available information. Historical aerial photographs that predate the planting of these areas do not show any wetlands occurring within the development footprint. Accordingly, there is no impact.

Proposed Bypass Facility Modification

No wetlands occur in the construction footprint for the proposed bypass facility modification. Therefore, no federally protected wetlands would be affected by the construction of the proposed bypass facility.

No trenching, cultivation, or other disturbance will take place within the preserved wetland area adjacent to the reservoir throughout the life of the project. Refer to the permit term described above under impact a that will require maintenance of the existing setback around the reservoir that encompasses the interior of the upper embankment and the fringe of wetland vegetation surrounding the reservoir.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

The diversion of water from the Big Sulphur Creek watershed, in concert with other diversions, may lead to indirect and direct impacts to anadromous salmonids downstream. The DFG-NMFS Draft Guidelines were developed in 2002 and recommended for use by permitting agencies (including the State Water Board), planning agencies, and water resources development interests when evaluating proposals to divert and use water from northern California coastal streams. The DFG-NMFS draft Guidelines apply to projects located in the geographic area of Sonoma, Napa, Mendocino, and Marin Counties, and portions of Humboldt County. The DFG-NMFS Draft Guidelines recommend that terms and conditions be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biologic and hydrologic assessments. The DFG-NMFS Draft Guidelines, in large part, recommend:

1. assessing the cumulative impacts of multiple diversion projects on downstream fisheries habitat by calculating the CFII to estimate the cumulative effects of existing and pending projects in a watershed of interest;
2. limiting new water right permits to diversions during the winter period (December 15 through March 31) when stream flows are generally high;
3. providing a minimum bypass flow downstream of diversions not less than FMF as calculated at the points of diversion;
4. the new storage ponds be constructed offstream and that permitting of new or existing onstream storage ponds be avoided; and

5. where appropriate, water diversion be screened in accordance with NMFS and DFG screening criteria.

The results of the WAA/CFII report prepared for the project (Wagner & Bonsignore 2009) are summarized above in the Hydrology and Water Quality section of this document. The proposed project includes an existing onstream reservoir and will not result in cumulative flow reduction that exceeds the recommendations contained in the DFG-NMFS Draft Guidelines with the exception of POIs 1 and 2. All CFII values where fish are hypothetically seasonally present are well below 10%¹⁹.

According to the DFG-NMFS Draft Guidelines, in order for an onstream dam to be approved under a Class III Watershed Exemption, it must meet three criteria:

1. the POD must be located on a stream reach where fishes or non-fish aquatic species were not historically present upstream (i.e., a Class III stream);
2. the POD must be located where the project could not contribute to a cumulative reduction of more than 10% of the natural instantaneous flow in any reach where fish are at least seasonally present; and
3. the POD must be located where the project would not cause the dewatering of any fishless stream reach supporting non-fish aquatic species (i.e., a Class II stream).

The following points outline the rationale for determining that this particular project meets the recommendations in the DFG-NMFS Draft Guidelines, including the criteria for allowing an onstream dam.

- POD 1 is located on a Class III channel network where fish or other non-fish aquatic species were not historically present upstream²⁰.
- The reservoir is located where the project could not contribute to a cumulative reduction of more than 10% of the natural instantaneous flow in any reach where fish are at least seasonally present. The area above POD 1 (9 acres) divided by the area above the ULA posed by a vertical drop (642 acres) results in a value less than 10% (1.4%). The area above POD 1 (9 acres) divided by the area above the ULA posed by stream gradient (683 acres) results in a value less than 10% (1.32%).

¹⁹ The CFII values at the ULAs for Application 31095 are well below 5%, specifically between 3.5% (the CFII at POI 3) and 1.8% (the CFII at POI 4). As described previously, NMFS has indicated that for streams in non-coho, non-Chinook anadromous watersheds (steelhead-only streams), additional hydrological analysis is not needed where the CFII is less than 10% (Hearn pers. comm.).

²⁰ Based on observed topographic conditions, the Tributary 1 Complex on which POD 1 is located may have entered a meadow complex (or nearly level surface) downstream where the reservoir is now situated. This conclusion stems from the observation that the reservoir area is located on a broadly sloping ridge or divide that separates Sulphur Creek and the Reservoir Outlet Channel. Under high flows events, it is possible that the Tributary 1 Complex may have historically connected to the Reservoir Outlet Channel and/or Sulphur Creek. Regardless, it is highly unlikely that the Tributary 1 complex was ever a viable Class II drainage.

- The project will not cause the dewatering of any non fish-bearing stream supporting non-fish aquatic species. Spill flows from POD 1 are directed into the Reservoir Outlet Channel, a Class II ephemeral channel downstream of the above-ground reservoir spillway pipe that is only classified as such because of the augmentation of water from the reservoir.

The season of diversion conforms with the DFG-NMFS guidelines. A minimum bypass flow equal to the FMF will be imposed as a term in any permit or license issued for Application 31095.

Because the CFII at each POI is less than 10% for POIs 3 through 8 there is no significant cumulative impact on the anadromous fishery as a result of the proposed project.

The proposed project did not result in interference with potential wildlife movement corridors on the parcel and did not contribute to fragmentation of wildlife habitat. The established vineyards do not occupy the entire 100-acre parcel. A significant amount of the property (approximately 80 acres) remains undeveloped as open space and continues to provide potential wildlife habitat for upland and aquatic species. The parcel is adjacent to lands developed in farmland and vineyards. Furthermore, the land to the north of the property consists of a west-east trending ridgeline with ample open space for wildlife movement. This area, part of the Mayacamas Mountains, is a mix of open grasslands, Oak savannah, and patches of evergreen forest.

All project area drainages and adjacent habitat were and will be preserved – the establishment of buffers and other appropriate measures was not required during the planting of grape vines and the installation of the irrigation system nor will be required during the modification of the masonry wall at POD.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed project did not or does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As such, there is no impact.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan?

The proposed project did not or does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, there is no impact.

6. AGRICULTURAL RESOURCES

In determining whether impacts on agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Department of Conservation, Office of Land Conservation (1997) as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methods provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zones Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Regulatory Setting

As stated previously, the baseline condition for Application 31095 consists of 17 acres of cleared, graded, and disced vineyard, the 24 acre-foot onstream reservoir and dam (POD 1), and the masonry dam wall on the Unnamed Stream (aka Sulphur Creek) (POD 2). Agriculture and agricultural production are prevalent land uses in Sonoma County. The Sonoma County General Plan (2008) designates the proposed project area as a Resources and Rural Development land use designation. Permitted

land uses within this category include agricultural production activities (Sonoma County 2008). Accordingly, the planting of grape vines and the installation of the irrigation system were both consistent with the prevalent land uses in Sonoma County, as well as the permitted land uses that fall under the Resources and Rural Development land use designation. Furthermore, the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows is also consistent with the permitted land uses that fall under the Resources and Rural Development land use designation.

The Agricultural Resources Element in the Sonoma County General Plan (2008) acknowledges the importance of agricultural production in and to Sonoma County:

The purpose of the element is to establish policies to insure the stability and productivity of the County's agricultural lands and industries. The element is intended to provide clear guidelines for decisions in agricultural areas. It is also intended to express policies, programs and measures that promote and protect the current and future needs of the agricultural industry. If future technology, and/or enterprises, of the agriculture industry require alternative and yet unforeseen policies and implementation mechanisms, those should be consistent with the County's commitment to encourage the maintenance of a healthy agriculture sector of the County's economy.

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses?***

The proposed project did not and would not result in the conversion of farmland to non-agricultural use. Accordingly, there is no impact.

- b. *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?***

The proposed project did not and would not result in conflict with a Williamson Act contract. Accordingly, there is no impact.

- c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zones Timberland Production (as defined by Government Code section 51104(g))?***

No trees were present at the time of the planting of grapes and the installation of the irrigation system. The planting of grapes and the installation of the irrigation system occurred on previously cleared, graded, and disced land. The parcels are not located in an area zoned for timber production (Timberland Production Zone). Therefore, it did not conflict with existing zoning or cause rezoning of forest land. Modification of the proposed bypass facility that will be required to allow bypass flows would not affect any trees. Accordingly, there is no impact.

- d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?***

The proposed project did not and would not result in the loss of forest land or conversion of forest land to non-forest use. Accordingly, there is no impact.

- e. *Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?***

The proposed project did not and would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Accordingly, there is no impact.

7. NOISE

Would the project result in:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Regulatory Setting

The Sonoma County General Plan identifies agricultural operations as a potentially significant source of community noise within Sonoma County (Sonoma County 2008). Residences are located approximately within a 10-mile radius of the vineyard.

Findings

Impacts a through d

Construction activities associated with the planting of grape vines and the installation of the irrigation system were short-term and occurred only during daylight hours. After construction of the proposed project, noise generated in the proposed project area is now consistent with routine agricultural activities and is similar to that already existing in the project vicinity. The modification of the masonry wall dam at POD 2 that will be

required to allow bypass flows will involve short-term construction; however, it is anticipated that the associated construction will occur with only hand tools and one or two vehicles that will be used to access the site. Impacts a through d were and are considered less than significant.

- e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?***

The proposed project area is not located near noise-sensitive areas, within an airport land use plan or where such a plan has not been adopted, or within 2 miles of an airport. Accordingly, there is no impact.

- f. *For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?***

The proposed project area is not located within the vicinity of a private airstrip. Accordingly, there is no impact.

8. LAND USE AND PLANNING

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Regulatory Setting

Sonoma County General Plan

The proposed project area lies within the Cloverdale/Northeast County Planning Area identified within the Sonoma County General Plan (2008), located in the northeastern portion of the county. Dominant natural features of this planning area include the rugged Mendocino Highlands on the west and the Mayacamas Mountains on the east, which surround the fertile Russian River Valley, including Dry Creek and Alexander Valleys. The area is also rich in other resources, including streams, riparian zones, fish and wildlife habitat, geothermal steam, construction aggregates, and water for domestic and agricultural use. Lake Sonoma and the Russian River also provide many recreational opportunities. Lands outside of the valley floors are severely constrained and relatively inaccessible.

The Sonoma County General Plan Land Use Element (2008) and its policies guide growth and the development and use of land in Sonoma County through 2020. The Land Use Element of the general plan designates the proposed project area as Resources and Rural Development. Permitted land uses within this category include agricultural production activities, among other activities (Sonoma County 2008). Accordingly, the planting of grape vines and the installation of the irrigation system were both consistent with the permitted land uses that fall under the Resources and Rural Development land use designation. Furthermore, the modification of the masonry wall dam at POD 2 that will be required to allow bypass flows is also consistent with the permitted land uses that fall under the Resources and Rural Development land use designation.

As stated below, the proposed project area is zoned in a Resources and Rural Development (Agricultural Preserve) District. The Sonoma County General Plan Land Use Element (2008) provides the following goals and objectives for the protection of agricultural land and preserves:

- **GOAL LU-9:** Protect lands currently in agricultural production and lands with soils and other characteristics, which make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.
 - **Objective LU-9.1:** Avoid conversion of lands currently used for agricultural production to non-agricultural use.
 - **Objective LU-9.2:** Retain large parcels in agricultural production areas and avoid new parcels less than 20 acres in the "Land Intensive Agriculture" category.
 - **Objective LU-9.3:** Agricultural lands not currently used for farming but which have soils or other characteristics which make them suitable for farming shall not be developed in a way that would preclude future agricultural use.
 - **Objective LU-9.4:** Discourage uses in agricultural areas that are not compatible with long-term agricultural production.
 - **Objective LU-9.5:** Support farming by permitting limited small-scale farm services and visitor serving uses in agricultural areas.

Sonoma County Zoning Ordinance

The proposed project area is zoned in a Resources and Rural Development (Agricultural Preserve) District. The Sonoma County Zoning Ordinance (Sonoma County Permit and Resource Management Department 2010) describes the intent of the Resources and Rural Development (Agricultural Preserve) designation as follows:

To implement the provisions of the resources and rural development land use category (Section 2.8.1) of the general plan in a manner consistent with the provisions of Section 51200 et. seq. of the Government Code and the Land Conservation Act of 1965.

Uses related to the proposed project that are allowed within the Resources and Rural Development (Agricultural Preserve) designation, which do not require a use permit, include raising, feeding, maintaining and breeding of a certain amount of farm animals on 20,000 square feet of area, and the outdoor growing and harvesting of shrubs, plants, flowers, trees, vines, fruits, vegetables, hay, grain, and similar food and fiber crops, including wholesale nurseries. Agricultural cultivation without a use permit shall not be permitted in the following areas:

- Within 100 feet from the top of the bank in the "Russian River Riparian Corridor."
- Within 50 feet from the top of the bank in designated "flatland riparian corridors."
- Within 25 feet from the top of the bank in designated "upland riparian corridors."

Agricultural cultivation may be allowed within the setbacks upon approval of a management plan, which includes appropriate mitigations for potential erosion, bank stabilization and biotic impacts. This plan may be approved by the director of the PRMD or by use permit pursuant to Section 26C-61(b)(3).

Sonoma County Tree Protection Ordinance

The Sonoma County Tree Protection Ordinance, Article 88, Section 26-88-010 (m) of the Sonoma County Zoning Ordinance, states that projects should be designed to minimize the destruction of protected trees. The section also states that agricultural cultivation is exempt from this requirement, in certain cases (Sonoma County Permit and Resource Management Department 2005). The proposed project did not or does not involve tree removal.

Sonoma County Vineyard Erosion and Sediment Control Ordinance

See the discussion of the Vineyard Erosion and Sediment Control Ordinance in the Geology and Soils section. Development of the proposed project required compliance with the Sonoma County Vineyard Erosion and Sediment Control Ordinance.

Findings

a. Would the project physically divide an established community?

The proposed project would not result in physical barriers that would divide an established community. Accordingly, there is no impact.

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Adherence to the measures contained within the Sonoma County Vineyard Erosion and Sediment Control Ordinance, discussed in the Geology and Soils section above, reduced potential soil erosion impacts to a less than significant level.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No habitat conservation plans or natural community conservation plans currently exist for the proposed project area. Accordingly, there is no impact.

9. MINERAL RESOURCES

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Regulatory Setting

The State of California classifies mineral lands throughout the state and has designated certain mineral bearing areas as being of regional significance. Local agencies must adopt mineral management policies that recognize mineral information provided by the state, assist in the management of land use that affect areas of statewide and regional significance, and emphasize the conservation and development of identified mineral deposits (Sonoma County 2008).

Various minerals have been mined in Sonoma County during the past century however aggregate products are now the dominant commercial minerals. Sonoma County has adopted the Aggregate Resources Management (ARM) plan for obtaining future supplies of aggregate material. This plan serves as the state-mandated mineral management policy for the county. During the process of adoption of the plan, Sonoma County considered the aggregate resource areas subsequently classified as MRZ-2 by the State Geologist (Sonoma County 2008). The proposed project area is not located in a mineral resource deposit area (Stinson et al. 1983).

Findings

Impacts a and b

No mineral resources are located near the proposed project area as mapped by the Sonoma County General Plan (2008) nor Stinson et al. (1983), and no impacts to mineral resources occurred as a result of the planting of the grape vines or installation of the irrigation system. Similarly there would be no impacts resulting from the proposed modification of the masonry wall dam at POD 2. Accordingly, there are no impacts associated with impacts a and b.

10. HAZARDS and HAZARDOUS MATERIALS

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Findings

Impacts a and b

Hazardous materials used during the planting of grape vines and installation of the irrigation system were limited to common petroleum and agricultural products (e.g., motor oil and fertilizer). When properly used these products do not present a significant hazard. No spills occurred during planting of the grape vines nor the installation of the

irrigation system and appropriate Best Management Practices (BMPs) (e.g. fueling away from water courses, proper storage of hazardous materials) will be implemented to prevent a release to the environment during the modification of the masonry wall dam at POD 2. Impacts a and b are considered less than significant.

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?***

The proposed project is not located within 0.25 mile of any existing or proposed schools. Accordingly, there is no impact.

- d. *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?***

A search of the U.S Agency for Toxic Substances & Disease Registry (2011) and the California Department of Toxic Substances Control (2011) records did not reveal any known hazardous materials sites in the proposed project area; the proposed project area is not listed pursuant to Government Code §65962.5.

- e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?***

The proposed project is not located within an airport land use plan or where such a plan has not been adopted, or within two miles of a public airport or a public use airport. Accordingly, there is no impact.

- f. *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?***

The proposed project is not located within the vicinity of a private airstrip. Accordingly, there is no impact.

- g. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

The proposed project does not include features that would interfere with an adopted emergency plan. Accordingly, there is no impact.

- h. *Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?***

The proposed project is located in a rural area that contains substantial fuels (e.g., grasses) that are susceptible to wildland fire. Though there was no impact, planting of the grapevines and installation of the irrigation system introduced potential sources of fire. Equipment used during these activities may have also created sparks, which could have ignited dry grass or other vegetation in the proposed project area. This risk, which

is similar to that found at other rural construction sites, is considered to be a less than significant impact if standard safety precautions were taken. The proposed modification of the masonry wall dam at POD 2 would implement BMPs (e.g., clearing construction areas of combustible material; ensuring spark arresters are in good working order and are installed on all equipment during project construction; and ensuring that there is adequate fire-fighting tools onsite) during project construction. These actions would reduce to this impact to a less than significant level.

11. POPULATION AND HOUSING

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Findings

Impact a through c

The proposed project did not and would not directly or indirectly induce substantial growth in the proposed project area and would not displace people or housing. The project did not nor would require an expanded permanent workforce that would or will require additional housing in the vicinity of the project. Accordingly, there are no impacts associated with impacts a through c.

12. TRANSPORTATION/CIRCULATION

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Exceed, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Findings

- a. ***Would the project cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?***

Vehicular access to the proposed project area is provided by Pine Mountain Road, a two-lane rural road in northern Sonoma County which is accessed from the south via Geysers Road, itself a rural minor collector (Sonoma County 2008). Installation of the grape vines and irrigation system caused a temporary and negligible increase in traffic as laborers and materials were transported to and from the project area. This increase was slight and did not represent a significant impact to transportation or circulation.

Impacts b through g

No substantial new impediments to emergency access or incompatible uses occurred nor did the project result in inadequate parking capacity, or conflict with adopted alternative transportation policies, plans, or programs. Impacts to transportation and circulation resulting from the modification the masonry wall at POD 2 would be similar or less than the impacts caused by the installation of the grape vines and irrigation system and are not discussed further. There are no impacts associated with impacts b through g.

13. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Public services include fire and police protection, schools, parks, and other public facilities. The Sonoma Department of Emergency Services' Fire Division provides fire protection in the proposed project area. The Sonoma County Sheriff's Department provides police protection. The Cloverdale Unified School District provides K to 12th grade education to the proposed project area.

Findings

Impacts a through e

The planting of grape vines and the installation of the irrigation system did not impact public services nor would the proposed modification of the masonry wall dam at POD 2. The project did not nor would not result in any adverse physical impacts associated with the provision of new or physically altered public facilities. The project would not create new residential areas or demand for schools, parks, or other public facilities. Accordingly, there are no impacts associated with impacts a through e.

14. UTILITIES AND SERVICE SYSTEMS

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Findings

Impacts a through g

The proposed project area is not served by public water and wastewater services. Residences in the proposed project area vicinity rely on private wells for domestic water supply and private septic systems for wastewater treatment. The Healdsburg Transfer Station, located approximately 20 miles to the south, is the solid waste disposal and recycling site closest to the proposed project area.

No additional wastewater, stormwater drainage or landfill facilities were required as part of the grape vine and irrigation system installation and they would not be required as part of the proposed modification to the masonry wall dam at POD 2. Additional water supplies, such as connection to public water supply, were not and will not be required. Accordingly, there are no impacts associated with impacts a through g.

Refer to the discussion of potential water supply impacts in the Hydrology and Water Quality section for additional information.

15. AESTHETICS

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Findings

Impacts a and b

The proposed project area contains scenic resources characteristic of Sonoma County, including mountainous landscapes, agricultural and pastoral settings, and riparian areas. The existing agricultural use of the proposed project area is consistent with the rural aesthetic quality of the region and there were no impacts with respect to adverse effects on a scenic vista or substantial damages to scenic resources as a result of the planting of the grape vines or installing the irrigation system. The modification of the masonry wall dam at POD 2 would not result in adverse effects on a scenic vista, damage to scenic resources, or degrade the visual character of the site.

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

While the installation of the grape vines may have degraded the existing visual character of the of the proposed project area, that use is consistent with the rural aesthetic quality of the region and impacts would be less than significant.

d. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Neither the planting of the grape vines, the installation of the irrigation system, nor the modification of the masonry wall dam at POD 2 introduced or would introduce a new source of substantial light or glare. Accordingly, there is no impact.

16. CULTURAL RESOURCES

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Tom Origer & Associates conducted a cultural resources study of the proposed project area in 2000 (Quinn and Origer 2000). The cultural resources study included background research at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University and a field survey of the proposed project area. Information obtained as a result of the literature review is presented below.

A records search of the proposed project area was conducted at the NWIC at Sonoma State University. The research revealed that lands in the general vicinity of the proposed project area have been surveyed on two previous occasions and that a single isolated artifact was identified on a parcel immediately adjacent to the western boundary of the proposed project area. It was noted, however, that the discovery occurred in an environmental context more favorable to human occupation than that in the proposed project area. The records search also revealed that the chief village of the Southern Pomo, maka 'hmō, was situated approximately three miles from the proposed project area. Historical maps indicated that no structures were located within the proposed project area.

A cultural resources survey of the proposed project area and a report detailing the survey results was completed in July of 2000 (Quinn and Origer 2000). The report indicated that no prehistoric or historic-period cultural resources were found within the proposed project area and that no resource-specific recommendations were warranted.

Paleontological Resources

For paleontological resources, a records search of the University of California's Museum of Paleontology's (UCMP's) database was conducted. The surficial geologic unit in the proposed project area is mapped as the Franciscan Complex, which is of Upper Jurassic to Cretaceous age (Wagner and Bortugno 1982). There are no records of vertebrate fossils of either the Franciscan Complex or Upper Jurassic to Cretaceous age in Sonoma County (University of California, Berkeley Museum of Paleontology 2011a). However, the UCMP database does contain records of vertebrate fossils, such as ichthyosaur and plesiosaurus, in the Franciscan Complex in other counties (University of California, Berkeley Museum of Paleontology 2011b). The unit therefore has the potential to contain vertebrate fossils, because, unlike archaeological sites, paleontological sites are defined by the entire extent (both areal and stratigraphic) of a unit or formation. In other words, once a unit is identified as containing vertebrate fossils or other rare fossils the entire unit is a paleontological site (Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee 2011).

The soils overlying the Franciscan Complex are Holocene in age and therefore unlikely to contain fossils. The depth of these soils is unknown. In addition, the area has been disturbed by agricultural discing.

Findings

Impacts a and b

No significant historical resources have been or will be impacted by the project as it is currently proposed in Application 31095. Though it did not occur during the planting of the grape vines or installation of the irrigation system, there is the possibility that buried archeological deposits could be present and accidental discovery could occur during the modification of the masonry wall dam at POD 2. The following permit term, substantially as written, pursuant to CEQA Guidelines 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction", will be included in any permits or licenses issued pursuant to Application 31095:

- Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Deputy Director for Water Rights shall be notified of the discovery and a professional archeologist shall be retained by the Permittee to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Deputy Director for Water Rights for approval. Project-

related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Deputy Director for Water Rights.

c. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Paleontological resources could be present in the proposed project area because the Franciscan Complex is known to contain vertebrate fossils. However, project activities during the installation of grape vines and the construction of the irrigation system did not disturb more than the upper 18 inches of soil. As such, vertebrate fossils were most likely not disturbed (if present) because earthmoving activities were not deep enough to reach the Franciscan Complex. The severity of impact would have been directly related to the abundance and quality of materials present, if any; and the extent of disturbance and loss. For the modification of the masonry wall dam at POD 2, damage or destruction of vertebrate paleontological resources would constitute a significant impact. Implementation of the permit term below would reduce this impact to a less-than-significant level.

- If vertebrate fossils are discovered during project activities, all work shall cease within 100 feet of the find until a qualified professional paleontologist as defined by the Society of Vertebrate Paleontology's Conformable Impact Mitigation Guidelines Committee (2011) can assess the nature and importance of the find and recommend appropriate treatment. The Division will also be notified of the discovery and the qualified professional paleontologist's opinion within 48 hours of the initial finding. Treatment may include preparation and recovery of fossil materials, so that they can be housed in an appropriate museum or university collection, and also may include preparation of a report for publication describing the finds. Project activities shall not resume until after the qualified professional paleontologist has given clearance and evidence of such clearance has been submitted to the Division.

d. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

If any discovery includes human remains, CEQA Guidelines 15064.5 (e)(1) and California Health and Safety Code section 7050.5 shall be followed. Consultation with a local coroner and Native Americans shall occur. The county coroner is required to examine all discoveries of human remains within 48 hours of the notification. To address this issue, a permit term, substantially as follows, shall be included in any permit or license issued pursuant to Application 31095:

- If human remains are encountered, then the Permittee shall comply with Section 15064.5 (e) (1) of the California Environmental Quality Act Guidelines and the Health and Safety Code Section 7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the county coroner has been notified. If the coroner determines that the remains are Native American, the

coroner will notify the Native American Heritage Commission to identify the most-likely descendants of the deceased Native Americans. Project-related ground disturbance in the vicinity of the find shall not resume until the process detailed under Section 15064.5 (e) has been completed and evidence of completion has been submitted to the Deputy Director for Water Rights.

17. RECREATION

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Sonoma County has various types of parklands, including federal recreation areas and state parks, regional parks, community parks and neighborhood parks. Recreational opportunities include fishing, camping, swimming, picnicking, horseback riding, bicycling, hiking, and walking.

Findings

Impacts a and b

Neither the planting of the grapevines, the installation of the irrigation system, nor the proposed modification of the masonry wall dam at POD 2 increased or would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Nor do past or proposed project activities include recreation facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

18. MANDATORY FINDINGS OF SIGNIFICANCE.

Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As discussed in the preceding sections, the past planting of the grape vines and installation of the irrigation system, as well as the proposed modification of the masonry wall dam at POD 2 have a potential to degrade the quality of the environment by adversely impacting hydrology and water quality, biological resources, hazards and hazardous materials, and cultural resources.

However, with implementation of the identified permit terms and other environmental commitments, potential impacts would be reduced to a less than significant level.

As outlined in the preceding sections, the proposed project has a potential to result in adverse environmental impacts. These impacts in combination with the impacts of other past, present, and future projects, could contribute to cumulatively significant effects on the environment. However, with implementation of the identified permit terms, the proposed project would avoid or minimize potential impacts and would not result in cumulatively considerable environmental impacts.

As discussed in the preceding sections, the proposed project has a potential to result in adverse direct or indirect effects on human beings. However, with implementation of the identified permit terms, the proposed project would not result in substantial adverse

direct or indirect effects on human beings and impacts would be considered less than significant.

III. DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A NEGATIVE DECLARATION will be prepared. ☒

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

Prepared By:

Jeff Peters
ICF International

Original Signed By JPeters

Date AUG 10 2012

Reviewed By:

Jennifer Dick-McFadden
Environmental Scientist

Original Signed By JDick

Date AUG 15 2012

Amanda Montgomery,
Unit Senior
Napa River Watershed Unit

Original Signed By
AMontgomery

Date AUG 15 2012

(Form updated 4/28/04)

Authority: Public Resources Code Sections 21083, 21084, 21084.1, and 21087.

Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.1 through 21083.3, 21083.6 through 21083.9, 21084.1, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. App. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal. App. 3d 1337 (1990).

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